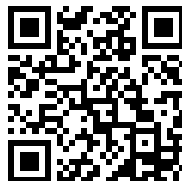

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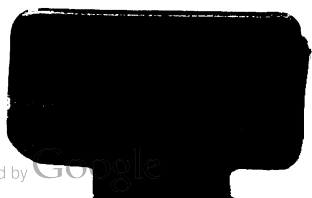


RC 248
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1913

ANNUAL REPORT

1913

ROCKEFELLER SANITARY
COMMISSION FOR THE
ERADICATION OF
HOOKWORM DISEASE



THE ROCKEFELLER SANITARY COMMISSION
FOR THE
ERADICATION OF HOOKWORM DISEASE

FOURTH ANNUAL REPORT
FOR THE YEAR 1913.

OFFICE OF THE COMMISSION
WASHINGTON, D. C., U. S. A.
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CHAPTER II.—Summary of activities and results by States.

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EXPLANATORY NOTES.

1. In June of the current year, John A. Ferrell, M. D., was elected a member of the administrative staff of The International Health Commission, and was given active direction of the administrative work of The Rockefeller Sanitary Commission in the South.

2. Each State in the beginning employed its own system of records. Conferences for systematizing them were later held, and practical uniformity adopted. This work brought out certain discrepancies in the early reports. In so far as these apply to the work where the county is the unit they have been revised, so that the figures in this report under this heading are based on the revised figures, and not on the figures previously published. A revisal of the records of the work where the State is the unit will be made, as far as practicable, and given in the next annual report. The need for revising under this heading is so manifest in two items that they are being omitted in this report. One applies to the actual expenditure by the State in this particular work; the other to the number of physicians now treating hookworm disease and reporting their cases.

3. The term "number of persons treated" as used in this report signifies the number of persons to whom treatment has been dispensed. Some persons to whom treatment has been dispensed carry the medicine home, but do not take it. It is clearly impossible to correct this error in the record.

4. The number of persons microscopically examined in making the infection survey does not equal the total number of microscopic examinations made in a State. All microscopic

examinations save those of rural children from 6 to 18 years of age are excluded from the reports of the infection survey.

5. A comparison of the total number of persons microscopically examined with the total number of persons treated will not indicate the percentage of persons infected, because during 1910-1912 many members of the staff treated cases on clinical diagnoses, and many of those cases at present treated by practicing physicians have no microscopical examinations made. Table four will indicate the degree of infection found, based on microscopic work.

6. The figures in the tables for the infection and sanitary surveys for 1913 do not all correspond to the figures shown for these surveys in other tables. The figures for 1913 include for certain states, second surveys which elsewhere are omitted. Hence, the seemingly apparent errors are not real.

7. Tables 10-12 include 10,177 persons examined; and tables 13-15 include 13,969 persons treated, which should be shown under the years when the work was done. A lack of uniformity in the early records of the states makes it impossible to segregate them now. As a result the horizontal and perpendicular additions in the tables do not correspond; however, the accuracy of the tables is not altered.

8. The totals given in this report do not include a vast amount of the work that has been done. No record is included of the clinical examinations made by physicians or members of the staff; a large number of microscopic examinations made by the staff before the dispensaries were operated, and many that have since been made in the field, are discarded because no complete, individual case records were made. Those persons who were treated by the staff prior to the opening of the dispensaries in 1911; and those since treated outside the regular dispensary work, are also omitted

for the same reason. This diminishes very materially the results which should be accredited to this health work, but it insures and strengthens the integrity of the records as they are given.

9. Persons who may desire to see how the work was organized and how the various activities were defined and conducted in the early stages of the work are referred to the First Annual Report by the Administrative Secretary. An account of the dispensary and how its work is conducted may be found in the Second Annual Report. The Third Annual Report describes the dispensary exhibit; the co-operation of the people, the physicians, and other agencies. These reports will be sent out on request until the supply is exhausted.

CHAPTER I.

GENERAL SUMMARY WITH NOTES.

1. **Persons Treated, 1913.** The total number of persons treated for hookworm disease in eleven states for the year 1913 is 186,277; an average of 616 persons treated for each working day in the year. The average number for 1912 was 720. This reduction of 14% in the number of persons treated is significant when we consider that the number of persons examined in 1913 represents an increase of 60% over 1912. The territory covered during 1913, as a whole, had lighter infection than that covered in 1912; yet some of the territory has been covered the second time and the results seem to indicate that the work of the health forces during the past four years accounts, in a measure at least, for this showing.

State.	Persons Treated 1913.
Alabama.....	11,702
Arkansas.....	4,894
Georgia.....	15,739
Kentucky.....	43,211
Louisiana.....	16,858
Mississippi.....	23,262
North Carolina.....	33,840
South Carolina.....	11,066
Tennessee.....	7,167
Texas.....	10,717
Virginia.....	7,821
Total.....	186,277

2. **Persons Treated, 1910-1913.** The total number of persons treated for hookworm disease in eleven states for the four years is 539,107.

This means the treatment of 369 persons a day for every day in four years.

State.	Persons Treated 1910-1913.
Alabama.....	40,540
Arkansas.....	8,838
Georgia.....	40,782
Kentucky.....	65,314*
Louisiana.....	42,675
Mississippi.....	96,857
North Carolina.....	143,329
South Carolina.....	47,271
Tennessee.....	15,137
Texas.....	18,245*
Virginia.....	20,119
Total.....	539,107

These figures include the persons treated by the staff, and by practicing physicians who voluntarily report their treated cases. The physicians as a rule do not keep a record of their treated cases, and many do not report regularly. Quite a number who are known to treat the disease never report, so that although the number of treated cases may not be absolutely accurate, the probability is that more cases have been treated than have been reported.

The members of the staff keep an accurate record of every person microscopically examined, every person infected, and every person treated; the size of the dose of thymol, and the date of each treatment.

*Work begun in 1912.

PERSONS TREATED.

Year	By Physicians	By Staff	Total
1910	8,000		8,000
1911	46,600	66,752	113,352
1912	64,978	152,531	217,509
1913	66,317	119,960	186,277
Total..	199,864	339,243	539,107*

3. **Microscopic Examinations, 1913.** Positive diagnosis of hookworm disease is made mainly by microscopic demonstration of the eggs of the parasite in the stool of the infected person. This method alone is employed by members of the staff. The number of microscopic examinations made, rather than the number of persons treated, affords the best index to the efficiency and progress of the work in a given time in a given territory. In lightly infected areas the difficulties of securing specimens and in making microscopic examinations are much greater than in heavily infected areas.

The total number of persons microscopically examined in eleven states for the year 1913 is 480,951, an increase of 60% over 1912. This means the microscopic examination of more than 1,573 persons for every working day in the year.

State.	Microscopic Examinations 1913
Alabama.....	20,501
Arkansas.....	17,615
Georgia.....	20,000
Kentucky.....	76,514

*See note following table No. 16.

Louisiana.....	26,468
Mississippi.....	72,592
North Carolina.....	107,887
South Carolina.....	45,537
Tennessee.....	24,059
Texas.....	31,537
Virginia.....	38,241
Total.....	480,951

4. **Microscopic Examinations, 1910-1913.** The total number of persons microscopically examined by the central laboratories and by the field force in eleven states up to December 31, 1913, is 858,377:

State.	Persons Examined 1910-1913.
Alabama.....	27,466
Arkansas.....	18,215
Georgia.....	43,765
Kentucky.....	121,569*
Louisiana.....	39,487
Mississippi.....	115,681
North Carolina.....	288,975
South Carolina.....	60,146
Tennessee.....	34,661
Texas.....	40,831*
Virginia.....	67,581
Total.....	858,377

5. **Increase of Microscopic Work.** In no feature of the work has the growth been more rapid or more significant than in the number of persons microscopically examined.

*Work begun in 1912.

No. persons microscopically examined:

1910.....	9,481
1911.....	57,943
1912.....	299,825
1913.....	480,951

Total.....858,377*

6. Cause of Increase in Microscopic Work.—The most significant factor contributing to this increase in microscopic work is the growing tendency on the part of all classes of people to seek examination regardless of symptoms. This demonstrates that the people have been educated to a considerable extent during the past three years. Though working in lightly infected counties, the response to the opportunity to be examined has been even greater than during the two previous years, when counties were being covered where infection was heavy. In the beginning of the work it was difficult to get people to submit specimens. They were squeamish about it; or only those who were ill, it was thought, needed to be examined. It is coming to be more and more generally recognized that all persons living in or near infected territory are subject to infection; that the infected person, whether he is ill or not, is a danger to himself, to his family, and to the community; that, therefore, every person living in or near infected territory, regardless of symptoms, should be examined.

7. Average Expenditures for Each Person Examined; and Each Person Treated, 1913.—The Commission during 1913 expended \$195,900.00 for examining 480,951 persons, and treating 186,277 persons. This means that for every 40c expended by the Commission a person was microscopically

*See note following table No. 13.

examined, and for every \$1.05 a human being has been treated and benefited in health, and helped to a better scale of living.

The two hundred and fourteen counties where dispensary work was completed this year expended \$33,033.92. This means that for every \$.06 spent by the county authorities a person was microscopically examined, and for every \$.17 an infected person was treated and benefited in health.

The various states have expended amounts ranging from about \$200.00 to \$8,000.00. These expenditures, however, have not in all cases been actually recorded; consequently, the cost to the states is here omitted, as calculations should be based on actual recorded expenditures, and not on estimated expenditures.

8. Average Expenditures for Each Person Examined; and Each Person Treated, 1910-1913.—The average cost for each person examined in 1913 was smaller than in previous years, notwithstanding the number of positive specimens examined was less by twelve per cent. than the number examined prior to 1913. Since all agree that the expense for examining negative specimens greatly exceeds that for positive specimens, this showing denotes increased efficiency in the work.

The average cost for each person treated in 1913 exceeds that in 1912. This is due: first, to making the work more scientific, in that no person was treated by the staff during 1913 who was not first found infected by microscopic examination. This was not required in 1912 by many of the field directors who administered treatment on clinical diagnoses. It is due, secondly, to the fact that the work has been conducted in counties having a lighter infection. This means a great increase in the amount of microscopic work required for each person treated.

COST OF EXAMINATIONS, 1910-1913.

Year	Number of Examina- tions made	EXPENDED BY		COST TO	
		Commission	County	Commis- sion	County
1910....	9,481	\$ 66,807 35	.....	\$ 7 04	.....
1911....	57,943	148,407 14	\$ 5,921 03	2 56	\$.12
1912....	299,825	184,671 60	21,351 44	61	.07
1913....	480,951	195,900 00	33,033 92	40	.06
Total...	858,377*	\$595,780 09	\$60,306 39	\$ 69	\$.07

*See note following table No. 13.

COST OF TREATMENTS, 1910-1913.

Year	Number of Treatments Made	EXPENDED BY		COST TO	
		Commission	County	Commis- sion	County
1910....	8,000	\$ 66,807 35	.....	\$ 8 35	.....
1911....	113,352	148,407 14	\$ 5,921 03	1 30	\$.05
1912....	217,509	184,671 60	21,351 44	84	.09
1913....	186,277	195,900 00	33,033 92	1 05	.17
Total...	539,107*	\$595,780 09	\$60,306 39	\$ 1 15	\$.11

*See note following table No. 16.

9. Definite Survey to Determine Degree of Infection.—This survey is based on a microscopic examination of at least 200 children between the ages of 6 and 18, taken at random—that is, without reference to clinical symptoms—from rural districts distributed over the county. This survey has been completed for 413 counties in eleven states. The total number of children examined for the survey in the 413 counties is 415,250, or an average of 1,005 per county.

In number of counties surveyed and in number of children

examined per county, the work of the present year shows a marked advance over that of previous years:

(a) Number of counties surveyed:

1911.....	78
1912.....	131
1913.....	204
Total.....	413

(b) Average number children examined per county:

1911.....	593
1912.....	836
1913.....	1,270

10. Degree of Infection Among Country School Children.—

The degree of infection varies from county to county and from community to community within a county. The records show a percentage of infection by counties ranging from .005 to 96. In the 413 counties in the eleven Southern states, there have been examined to date, 415,250 rural children, of whom 180,374, or 43% were found infected; a reduction of 12% from the 55% infection found among the 156,019 children examined and 85,909 found infected prior to 1913.

This showing is worthy of consideration, because the percentage of infection found among all persons examined in 1913 was smaller than for those examined in previous years. This indicates that the counties where the work of 1913 was done had lighter infection than the counties having the work completed in 1911 and 1912. This lighter infection may have existed four years ago, when this work began; or it may be due in part to the work of the practicing physicians who, during the past four years, have treated and reported 199,864 persons.

Year	Number of Counties Surveyed	Average No. Examined in In County	Number of Children Examined	Number of Children Infected	Per cent. Infected
1910.....			210	110	52%
1911.....	78	593	46,282	24,289	52%
1912.....	131	836	109,527	61,510	56%
1913.....	204	1,270	259,231	94,465	36%
Total.	413	1,005	415,250	180,374	43%

Average percentage of infection:

Prior to 1913.....	55%
Prior to 1914.....	43%

11. **Sanitary Survey.**—This survey is an inspection of privy conditions at country homes to determine their degree of efficiency in preventing soil pollution. Its methods are described in our second annual report. The survey has been completed in 501 counties. The number of counties surveyed shows an increase over the records of previous years.

(a) Number counties surveyed:

1911.....	120
1912.....	185
1913.....	196
Total.....	501

(b) Number of homes inspected:

1911.....	47,540
1912.....	61,179
1913.....	80,867
Total.....	189,586

(c) Average number of homes inspected for each county, by years:

1911.....	396
1912.....	330
1913.....	412
Average, all years.....	378

12. Degree of Soil Pollution at Farm Homes.—For the 501 counties surveyed, the records show a sanitary index* for counties ranging from 0 to 34 on a scale of a possible 100. A total of 189,586 farm homes taken at random in 501 counties scattered over eleven states have been inspected; of these 95,988 have no privy. For the 189,586 homes the sanitary index, estimated as for a county, is 5.8%.

No. privies type A at... 100%	412	41,200
No. privies type B at... 75%	550	41,250
No. privies type C at... 50%	692	34,600
No. privies type D at... 25%	4,788	119,700
No. privies type E at... 10%	87,156	871,560
No. privies type F at... 0%	95,988	0

Total number homes inspected..	189,586	1,108,310
Sanitary index.....		5.8%

13. The County Dispensary.†—The county dispensary has become the key to the work; with experience its organization has become more definite and its methods of work more effective. Increase of efficiency is exhibited in every item of the dispensary record:

*See Second Annual Report, p. 25.

†For detailed account of the county dispensary and its method of operation see Second Annual Report, pp. 18-22.

(a) Number of counties making appropriations for dispensaries:

1910.....	2
1911.....	59
1912.....	179
1913.....	217
Total for four years.....	457

(b) Total amount appropriated by counties:

1910.....	\$ 241 50
1911.....	9,859 46
1912.....	31,279 25
1913.....	45,595 88
Total for four years.....	\$86,976 09

(c) Number counties in which dispensary work has been completed:

1911.....	46
1912.....	159
1913.....	206
Total for three years.....	411

(d) Total amount expended by counties in which dispensary work has been completed:

1910.....	
1911.....	\$ 5,921 03
1912.....	21,351 44
1913.....	33,033 92
Total for four years..	\$60,306 39

(e) Number microscopic examinations made at dispensaries:

1911.....	28,369
1912.....	248,134
1913.....	424,231

Total for three years..... 700,734

(f) Average cost to counties for each microscopic examination made at dispensaries:

1910.....	.....
1911.....	\$.12
1912.....	.07
1913.....	.06

Average..... \$.07

(g) Number persons treated at dispensaries:

1911.....	66,752
1912.....	152,531
1913.....	119,960

Total for three years..... 339,243

(h) Average cost to counties for each person treated at dispensaries:

1910.....	.....
1911.....	\$.05
1912.....	.09
1913.....	.17

Average.....\$.11

14. **Records Made in County Dispensary Work.**—The most important feature of the work is the yearly average made along the various lines of activity, and not the individual record for a day, a month, or a county. Yet these individual records are interesting. A few of them will be given in groups of three:

(a) The largest county appropriation:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Amount.</i>
1913....	Kentucky.....	Jefferson.....	\$1,000 00
1913....	North Carolina...	Mecklenburg.....	500 00
1912....	Louisiana	Vernon.....	330 00

(b) The largest amount of county funds used:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Amount.</i>
1913....	Kentucky.....	Jefferson.....	\$1,000 00
1913....	North Carolina...	Mecklenburg.....	448 27
1912....	Louisiana.....	Vernon.....	330 00

(c) The largest number of persons examined the first dispensary day:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>No. Examined.</i>
1912....	North Carolina...	Wake.....	304
1912....	Mississippi.....	Pike.....	287
1913....	Kentucky.....	Harlan.....	238

(d) The largest number of persons examined any dispensary day:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>No. Examined.</i>
1913....	Kentucky.....	Laurel.....	1,687
1913....	North Carolina...	Union.....	970
1913....	Virginia.....	Lee.....	800

- (e) The largest number of persons examined in any county in a six weeks' campaign:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>No. Examined.</i>
1913....	Kentucky.....	Laurel.....	9,340
1913....	Virginia.....	Lee.....	9,013
1913....	North Carolina...	Union.....	7,937

- (f) The largest percentage of the total population of county examined:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Per cent. of population examined.</i>
1913....	Kentucky.....	McCreary.....	69%
1913....	North Carolina...	Currituck.....	53%
1911....	Mississippi.....	Pearl River.....	48%

- (g) The largest number of persons treated in any county in a six weeks' campaign:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Number treated.</i>
1911....	Alabama.....	Coffee.....	3,635
1912....	North Carolina...	Wilkes.....	3,431
1913....	South Carolina...	Greenville.....	2,623

- (h) The highest percentage of infection in a county survey:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Percentage of infection.</i>
1913....	Georgia.....	Burke.....	96%
1911....	Mississippi.....	Clarke.....	92%
1913....	Texas.....	San Jacinto.....	86%

- (i) The lowest percentage of infection in a county survey:

<i>Year</i>	<i>State.</i>	<i>County.</i>	<i>Percentage of infection.</i>
1913....	Mississippi.....	Claiborne.....	.005
1913....	South Carolina...	Greenwood.....	.037
1913....	Tennessee.....	Obion.....	.09

- (j) The highest sanitary index recorded in a county:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Sanitary Index.</i>
1913....	Texas.....	Walker.....	34
1912....	Louisiana.....	Tangipahoa.....	19
1913....	Virginia.....	Fairfax.....	15

- (k) The lowest sanitary index recorded in a county:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Sanitary Index.</i>
1912....	Tennessee.....		.00
1913....	Kentucky.....		.07
1912....	Mississippi.....		.06

- (l) The largest number of homes included in any county sanitary survey:

<i>Year.</i>	<i>State.</i>	<i>County.</i>	<i>Number of Homes.</i>
1913....	Kentucky.....	Clarke.....	2,078
1912....	Mississippi.....	Lauderdale.....	1,431
1911....	Louisiana.....	Acadia.....	1,335

- (m) The oldest person found infected:

<i>State.</i>	<i>Name.</i>	<i>County.</i>	<i>Age.</i>
South Carolina.....		Lancaster.....	94 years.
Alabama.....		Lauderdale....	91 years.
North Carolina...	Annis Stokes...	Yadkin.....	91 years.

(n) The youngest person found infected:

<i>State.</i>	<i>Name.</i>	<i>County.</i>	<i>Age.</i>
Alabama		Houston	three mos.
Mississippi	W. H. Belmont.	Tishomingo	ten mos.
Georgia	Tom Watson.	Macon	12 mos.

(o) The largest number of persons found infected in one family:

<i>State.</i>	<i>Name.</i>	<i>County.</i>	<i>Number infected in family.</i>
Mississippi	Rogers	Lawrence	17
North Carolina	Lawson	Stokes	16
Tennessee		McMinn	14

TABLE 1.—*Infection Survey, 1913.*

State	Number of Surveys Made*	Number Children Examined	Number Infected	Per cent. Infected
Alabama.....	12	12,302	5,997	48.7
Arkansas.....	11	7,541	1,681	22.2
Georgia.....	15	6,083	4,844	79.6
Kentucky.....	18	82,141	26,371	32.1
Louisiana.....	19	24,771	12,056	48.9
Mississippi.....	27	40,028	13,356	33.3
North Carolina.....	36	38,820	13,434	34.5
South Carolina.....	17	14,399	6,118	42.4
Tennessee.....	13	8,290	3,733	45.0
Texas.....	20	13,976	5,756	41.2
Virginia.....	21	15,028	3,893	25.9
Total.....	209	263,379	97,239	36.9

TABLE 2.—*Infection Survey, No. of Counties Surveyed by Years.*

State	No. of Counties	1910	1911	1912	1913 (by quarters)					Grand Total
					1	2	3	4	Total	
Alabama.....	67	....	4	10	3	3	3	3	12	26
Arkansas.....	75	....	6	7	2	2	1	6	11	24
Georgia.....	148	....	2	14	3	4	3	5	15	31
Kentucky.....	120	.....		3	1	9	4	4	18	21
Louisiana.....	64	....	10	11	4	5	4	6	19	40
Mississippi.....	79	....	9	23	6	4	8	7	25	57
North Carolina....	100	....	23	32	10	7	9	8	34	89
South Carolina...	44	....	3	8	5	5	3	4	17	28
Tennessee.....	96	....	11	11		4	4	4	12	34
Texas.....	249	.....		4	3	6	6	5	20	24
Virginia.....	100	....	10	8	..	10	6	5	21	39
Total.....	1,142	....	78	131	37	59	51	57	204	413

*Five second surveys included.

TABLE 3.—*Infection Survey.*
NUMBER OF CHILDREN EXAMINED AND NUMBER INFECTED, BY YEARS.

State	1910	1911	1912	1913 (by quarters)				Grand Total
				1	2	3	4	
Alabama.....	Examined.....	1,493	3,007	1,324	2,984	3,138	4,886	16,802
	Infected.....	1,034	1,721	944	1,969	1,051	2,053	8,752
Arkansas.....	Examined.....	4,435	5,702	1,072	1,321	1,427	3,711	17,678
	Infected.....	3,108	1,875	463	474	439	283	6,664
Georgia.....	Examined.....	568	6,406	1,389	1,389	1,511	1,624	13,087
	Infected.....	451	4,998	1,297	1,298	1,153	1,066	10,293
Kentucky.....	Examined.....	.....	5,974	4,499	41,680	22,269	13,603	82,141
	Infected.....	.....	3,001	24	13,967	6,389	5,991	29,372
Louisiana.....	Examined.....	4,541	8,442	3,891	5,191	7,138	8,551	24,771
	Infected.....	1,969	4,008	1,827	2,228	3,826	4,175	12,056
Mississippi.....	Examined.....	4,152	22,060	8,039	6,214	12,871	9,764	36,888
	Infected.....	3,460	16,566	4,710	1,243	4,453	460	10,866
North Carolina.....	Examined.....	210	23,194	40,667	8,803	8,901	8,453	38,251
	Infected.....	110	1,076	20,540	3,864	3,597	2,140	13,338
South Carolina.....	Examined.....	1,188	3,348	4,888	2,910	3,818	2,783	14,399
	Infected.....	918	1,612	1,408	1,164	2,232	1,254	6,118
Tennessee.....	Examined.....	2,671	3,624	.....	2,593	2,207	3,051	7,871
	Infected.....	1,124	1,527	.....	1,076	783	1,686	3,545
Texas.....	Examined.....	.....	4,216	2,791	4,370	2,496	4,319	13,976
	Infected.....	.....	2,879	1,351	2,756	762	907	5,756
Virginia.....	Examined.....	4,050	6,081	.....	6,670	5,315	3,043	15,028
	Infected.....	1,449	2,753	.....	1,574	1,647	672	3,893
Total.....	Examined.....	210	46,282	109,527	40,157	84,115	71,091	63,868
	Infected.....	110	24,289	61,510	15,970	31,326	24,875	22,294
								94,466

TABLE 4.
COMPARATIVE DEGREE OF INFECTION BETWEEN PERSONS OF ALL AGES, AND THOSE OF SCHOOL AGE.

State	ALL AGES			SCHOOL AGE		
	Examined	Infected	P. C. Infection	Examined	Infected	P. C. Infection
Alabama.....	25,821	11,204	43%	16,802	8,752	52%
Arkansas.....	17,169	4,151	24%	17,678	6,664	37%
Georgia.....	31,251	19,034	60%	13,057	10,293	78%
Kentucky.....	64,485	22,862	35%	88,115	29,372	33%
Louisiana.....	35,472	17,533	49%	37,754	17,733	46%
Mississippi.....	110,007	42,722	38%	63,100	30,892	48%
North Carolina.....	247,870	77,625	31%	102,312	45,064	44%
South Carolina.....	47,692	16,386	34%	18,935	8,648	45%
Tennessee.....	32,432	10,369	31%	14,146	6,196	43%
Texas.....	38,913	13,447	34%	18,192	8,635	47%
Virginia.....	49,622	12,888	25%	25,159	8,125	32%
Total.....	700,734	248,221	35%	415,250	180,374	43%

TABLE 5.—*Sanitary Survey, 1913.*

State	Number of Surveys Made*	Number of Rural Homes Inspected
Alabama.....	11	2,253
Arkansas.....	10	5,110
Georgia.....	21	5,507
Kentucky.....	18	13,048
Louisiana.....	19	6,813
Mississippi.....	32	20,805
North Carolina.....	33	10,893
South Carolina.....	16	3,888
Tennessee.....	19	4,930
Texas.....	20	7,925
Virginia.....	5	1,029
Total.....	204	82,201

TABLE 6.—*Sanitary Survey—Number of Counties Surveyed by Years.*

State	No. of Counties in State	1910	1911	1912	1913 (by quarters)					Grand Total
					1	2	3	4	Total	
Alabama.....	67	....	9	15	3	3	2	3	11	35
Arkansas.....	75	....	11	10	2	2	2	4	10	31
Georgia.....	148	....	10	14	6	4	5	4	19	43
Kentucky.....	120	....	....	8	..	9	3	6	18	26
Louisiana.....	64	....	10	11	4	7	3	5	19	40
Mississippi.....	79	....	5	24	4	8	5	13	30	59
North Carolina...	100	....	43	20	10	8	7	8	33	96
South Carolina...	44	....	4	22	..	8	2	3	13	39
Tennessee.....	96	....	14	9	1	6	5	6	18	41
Texas.....	249	....	....	4	3	6	6	5	20	24
Virginia.....	100	....	14	48	4	1	..	..	5	67
Total.....	1,142	....	120	185	37	62	40	57	196	501

*Eight second surveys included.

TABLE 7—Sanitary Survey.
NUMBER OF RURAL HOMES INSPECTED BY YEARS.

State	1910	1911	1912	1913 (by quarters)				Grand Total
				1	2	3	4	
Alabama.....		2,536	3,651	588	689	452	524	2,253
Arkansas.....		8,808	4,291	850	909	1,306	2,045	5,110
Georgia.....		3,933	4,623	1,329	955	1,478	1,130	4,892
Kentucky.....			3,372	.....	6,355	1,142	6,184	13,681
Louisiana.....		6,321	8,258	1,249	2,139	1,445	1,980	6,813
Mississippi.....		1,304	11,178	4,521	4,420	3,437	7,921	20,299
North Carolina.....		17,542	7,356	3,092	2,576	2,152	3,073	10,893
South Carolina.....		1,533	5,352	320	1,682	706	544	3,252
Tennessee.....		2,898	1,904	200	1,401	1,967	1,152	4,720
Texas.....			1,383	751	2,372	2,394	2,408	7,925
Virginia.....		2,665	9,811	826	203	.....	.....	1,029
Total.....		47,540	61,179	13,726	23,701	16,479	26,961	80,867
								189,586

TABLE 8.—*Sanitary Survey.*
TOTAL NUMBER OF HOMES INSPECTED WITH CLASSIFICATION OF PRIVIES FOUND, ALL YEARS.

State	CLASS OF PRIVIES						Grand Total
	A	B	C	D	E	F	
Alabama.....	52	.....	.....	73	4,676	3,639	8,440
Arkansas.....	.....	.....	.....	.....	6,806	11,403	18,209
Georgia.....	.....	7	.....	21	9,570	3,850	13,448
Kentucky.....	50	47	117	1,477	6,532	8,830	17,053
Louisiana.....	4	165	132	1,030	12,282	7,779	21,392
Mississippi.....	4	3	100	113	13,113	19,448	32,781
North Carolina.....	17	2	12	221	16,253	19,286	35,791
South Carolina.....	86	1	2	10	4,656	5,382	10,137
Tennessee.....	10	19	5	218	2,857	6,413	9,522
Texas.....	136	292	324	942	2,961	4,653	9,308
Virginia.....	53	14	.....	683	7,450	5,305	13,505
Total.....	412	550	692	4,788	87,156	95,988	189,586

TABLE 9.—*Dispensary Summary.*
NUMBER OF COUNTIES APPROPRIATING BY YEARS.

States	No. of Counties in State	1910	1911	1912	1913 (by quarters)					Grand Total
					1	2	3	4	Total	
Alabama.....	67	1	10	15	5	2	3	5	15	41
Arkansas.....	75	....	1	3	..	5	5	10	20	24
Georgia.....	148	....	2	21	5	5	7	3	20	43
Kentucky.....	120	....	....	7	2	8	4	1	15	22
Louisiana.....	64	....	8	10	1	6	8	4	19	37
Mississippi.....	79	1	9	27	5	9	8	4	26	63
North Carolina...	100	....	17	41	11	14	15	0	40	98
South Carolina...	44	....	3	19	6	5	5	0	16	38
Tennessee.....	96	....	6	9	3	3	3	6	15	30
Texas.....	249	....	....	14	2	8	4	7	21	35
Virginia.....	100	....	3	13	..	3	7	..	10	26
Total.....	1,142	2	59	179	40	68	69	40	217	457

TABLE 10.—*Dispensary Summary.*
NUMBER OF COUNTIES HAVING DISPENSARY WORK COMPLETED BY YEARS.

States	No. of Counties in State	1910	1911	1912	1913 (by quarters)					Grand Total
					1	2	3	4	Total	
Alabama.....	67	....	9	16	3	2	4	3	12	37
Arkansas.....	75	....	1	4	..	3	4	5	12	17
Georgia.....	148	....	1	18	5	6	3	7	21	40
Kentucky.....	120	....	....	6	0	3	8	1	12	18
Louisiana.....	64	....	5	10	5	4	6	5	20	35
Mississippi.....	79	....	8	23	6	5	7	8	26	57
North Carolina...	100	....	15	38	10	8	14	7	39	92
South Carolina...	44	....	4	20	4	6	3	3	16	40
Tennessee.....	96	....	....	12	2	5	4	4	15	27
Texas.....	249	....	....	4	3	6	6	5	20	24
Virginia.....	100	....	3	8	0	3	7	3	13	24
Total.....	1,142	....	46	159	38	51	66	51	206	411

TABLE 11.—*Dispensary Summary*
NUMBER OF PERSONS MICROSCOPICALLY EXAMINED, AT DISPENSARIES, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913 (by quarters)				Grand Total
					1	2	3	4	
Alabama.....		1,784	4,267	6,051	1,772	4,147	5,829	8,022	19,770
Arkansas.....						3,200	7,627	6,342	17,169
Georgia.....		531	14,509	15,040	3,611	4,488	3,399	4,713	16,211
Kentucky.....			14,049	14,049		14,609	33,408	2,419	50,436
Louisiana.....		2,862	8,004	10,866	4,641	4,595	7,569	7,801	24,606
Mississippi.....		3,288	36,732	40,020	18,287	8,827	23,800	19,073	69,987
North Carolina.....		16,701	126,562	143,263	28,964	26,011	34,192	15,440	104,607
South Carolina.....		2,130	8,124	10,254	8,323	8,951	9,935	10,229	37,438
Tennessee.....			9,098	9,098	1,167	5,701	7,540	8,926	23,334
Texas.....			8,460	8,460	6,915	9,867	6,374	7,297	30,453
Virginia.....		1,073	18,329	19,402		5,695	20,452	4,073	30,220
Total.....		28,369	248,134	276,503	73,680	96,091	160,125	94,335	424,231
									700,734

TABLE 12.—*Dispensary Summary*
NUMBER OF PERSONS MICROSCOPICALLY EXAMINED AT CENTRAL LABORATORY, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913 (by quarters)				Total	Grand Total
					1	2	3	4		
Alabama.....	92	183	639	914	161	239	183	148	731	1,645
Arkansas.....				600	134	116	103	93	446	1,046
Georgia.....	1,440	4,300	2,985	8,725	1,121	820	869	979	3,789	12,514
Kentucky.....			31,006	31,006	8,205	8,759	6,367	2,747	26,078	57,084
Louisiana.....				2,153	1,030	588	96	148	1,862	4,015
Mississippi.....				3,069	1,200	398	507	500	2,605	5,674
North Carolina...	7,949	20,115	9,761	37,825	2,024	467	370	419	3,280	41,105
South Carolina...				4,355	1,761	1,947	2,690	1,701	8,099	12,454
Tennessee.....		607	897	1,504	229	153	189	154	725	2,229
Texas.....			834	834	600	139	39	306	1,084	1,918
Virginia.....		4,369	5,569	9,938	4,080	2,432	744	765	8,021	17,959
Total.....	9,481	29,574	51,691	100,923*	20,545	16,058	12,157	7,960	56,720	157,643

*See note following table No. 13.

TABLE 13.—*Dispensary Summary*
TOTAL NUMBER PERSONS MICROSCOPICALLY EXAMINED, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913 (by quarters)				Total	Grand Total
					1	2	3	4		
Alabama.....	92	1,967	4,906	6,965	1,933	4,386	6,012	8,170	20,501	27,466
Arkansas.....	.....	.....	.....	600	134	3,316	7,730	6,435	17,615	18,215
Georgia.....	1,440	4,831	17,494	23,765	4,732	5,308	4,268	5,692	20,000	43,765
Kentucky.....	.....	.....	45,055	45,055	8,205	23,388	39,775	5,166	76,514	121,569
Louisiana.....	.....	2,862	8,004	13,019	5,671	5,183	7,665	7,949	26,468	39,487
Mississippi.....	.....	3,288	36,732	43,069	19,487	9,225	24,307	19,573	72,592	115,681
North Carolina...	7,949	36,816	136,323	181,088	30,988	26,478	34,562	15,859	107,887	288,975
South Carolina...	.....	2,130	8,124	14,609	10,084	10,898	12,625	11,930	45,537	60,146
Tennessee.....	.....	607	9,995	10,602	1,396	5,854	7,729	9,080	24,059	34,661
Texas.....	.....	.....	9,294	9,294	7,515	10,006	6,413	7,603	31,537	40,831
Virginia.....	.....	5,442	23,898	29,340	4,080	8,127	21,196	4,838	38,241	67,581
Total.....	9,481	57,943	299,825	377,426*	94,225	112,149	172,282	102,295	480,951	858,377

*In the column headed "Prior to 1913" there are included 600 examinations for Arkansas, 2,153 Louisiana, 3,069 for Mississippi and 4,355 for South Carolina that cannot be itemised by year, because of a lack of uniformity in the early State records. The column "Prior to 1913" is consequently 10,177 examinations in excess of the total examinations reported for 1910, 1911 and 1912.

TABLE 14.—*Dispensary Summary*
NUMBER OF PERSONS TREATED AT DISPENSARIES, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913 (by quarters)				Grand Total
					1	2	3	4	
Alabama.....		15,206	9,116	24,322	730	2,990	1,547	2,810	32,399
Arkansas.....		287	1,734	2,021	.....	791	2,263	340	5,415
Georgia.....		587	10,341	10,928	2,608	2,959	2,074	2,365	20,934
Kentucky.....			6,353	6,353	.....	1,563	10,492	1,436	19,844
Louisiana.....		6,322	11,965	18,287	2,141	2,184	3,662	3,860	30,134
Mississippi.....		14,099	33,492	47,591	7,283	1,580	5,500	3,285	65,239
North Carolina.....		27,219	41,702	68,921	6,063	6,443	6,081	3,350	90,858
South Carolina.....		2,437	21,154	23,591	1,851	2,285	3,939	2,991	34,657
Tennessee.....			6,720	6,720	318	1,501	1,736	3,350	13,625
Texas.....			4,298	4,298	2,169	4,444	1,145	1,274	13,330
Virginia.....		595	5,656	6,251	.....	959	4,992	606	12,808
Total.....		66,752	152,531	219,283	23,163	27,699	43,431	25,667	339,243

TABLE 15.—*Dispensary Summary*
NUMBER OF PERSONS TREATED BY PHYSICIANS, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913 (by quarters)				Grand Total
					1	2	3	4	
Alabama.....				4,516	711	801	226	1,887	3,625
Arkansas.....				1,923				1,500	1,500
Georgia.....		7,228	6,887	14,115				5,733	19,848
Kentucky.....			15,750	15,750		21,033		8,687	45,470
Louisiana.....				7,530	1,157	1,148	1,050	1,656	12,541
Mississippi.....		15,803	10,201	26,004				5,614	31,618
North Carolina...	8,000	16,709	15,859	40,568	3,784	3,232	2,932	1,955	52,471
South Carolina...		1,774	10,840	12,614					12,614
Tennessee.....		666	584	1,250	67	66	34	95	1,512
Texas.....			3,230	3,230	466	235	174	810	4,915
Virginia.....		4,420	1,627	6,047				1,264	7,311
Totals.....	8,000	46,600	64,978	133,547*	6,185	26,515	4,416	29,201	199,964

*See note following table No. 16.

TABLE 16.—*Dispensary Summary*
TOTAL NUMBER OF PERSONS TREATED, BY YEARS.

State	1910	1911	1912	Prior to 1913	1913 (by quarters)				Total	Grand Total
					1	2	3	4		
Alabama.....		15,206	9,116	28,838	1,441	3,791	1,773	4,697	11,702	40,540
Arkansas.....		287	1,734	3,944	.....	791	2,263	1,840	4,894	8,838
Georgia.....		7,815	17,228	25,043	2,608	2,959	2,074	8,098	15,739	40,782
Kentucky.....		.....	22,103	22,103	.....	22,596	10,492	10,123	43,211	65,314
Louisiana.....		6,322	11,965	25,817	3,298	3,332	4,712	5,516	16,858	42,675
Mississippi.....		29,902	43,693	73,595	7,283	1,580	5,500	8,899	23,262	96,857
North Carolina...	8,000	43,928	57,561	109,489	9,847	9,675	9,013	5,305	33,840	143,329
South Carolina...	.....	4,211	31,994	36,205	1,851	2,285	3,939	2,991	11,066	47,271
Tennessee.....	.....	666	7,304	7,970	385	1,567	1,770	3,445	7,167	15,137
Texas.....	.....	.....	7,528	7,528	2,635	4,679	1,319	2,084	10,717	18,245
Virginia.....	.....	5,015	7,283	12,298	.....	959	4,992	1,870	7,821	20,119
Total.....	8,000	113,352	217,509	352,830*	29,348	54,214	47,847	54,868	186,277	539,107

*In the column headed "Prior to 1913" there are included 4,516 persons treated for Alabama, 1,923 for Arkansas, 7,530 for Louisiana, that could not be itemized by years because of a lack of uniformity in the early State records. The column "Prior to 1913" is, consequently, 13,969 in excess of the total number of persons reported as treated for 1910, 1911 and 1912.

GENERAL SUMMARY WITH NOTES

TABLE 17.—*Dispensary Summary,*
TREATMENTS, 1913

State	NUMBER OF PERSONS AND TIMES TREATED						Total No. of Persons Treated	Total No. of Treatments
	One	Two	Three	Four	Five	Six		
Alabama.....	8,077	2,562	559	163	20	.....	8,077	11,381
Arkansas.....	3,394	567	31	1	.....	.....	3,394	3,993
Georgia.....	10,006	2,047	544	127	33	9	10,006	12,766
Kentucky.....	13,491	138	.....	.....	.....	.....	13,491	13,629
Louisiana.....	11,847	3,895	726	12	.....	.....	11,847	16,480
Mississippi.....	17,648	16,495	14,014	19	6	.....	17,648	48,182
North Carolina.....	21,937	17,290	13,826	793	159	54	21,937	54,059
South Carolina.....	11,066	8,691	7,527	6,637	904	448	11,066	35,273
Tennessee.....	6,905	5,326	2,718	132	20	5	6,905	15,106
Texas.....	9,032	1,807	364	28	.....	.....	9,032	11,231
Virginia.....	6,557	6,550	6,534	.....	.....	.....	6,557	19,641
Total.....	119,960	65,368	46,843	7,912	1,142	.....	119,960	241,741

TABLE 18.—*Enlisting the Physicians, 1913.**

State	Number Physicians in State	Number Visits to Physicians	Number Lectures to Physicians	Number Letters to Physicians	Number Bulletins to Physicians	Cases Reported Treated by Physicians
Alabama.....	2,350	305	10	287	.....	8,141
Arkansas.....	3,600	462	55	.....	7,022	3,423
Georgia.....	3,120	140	18	3,340	9,183	19,848
Kentucky.....	3,340	5,227	.....	16,610	32,139	45,470
Louisiana.....	2,039	265	6	7,850	5,275	12,541
Mississippi.....	1,783	677	3	815	1,042	31,618
North Carolina.....	1,847	384	4	5,674	32,309	52,471
South Carolina.....	1,303	381	8	150	12,339	12,614
Tennessee.....	3,400	975	12	1,408	1,073	1,512
Texas.....	5,126	607	8	11,661	1,108	4,915
Virginia.....	2,357	491	9	6,900	4,600	7,311
Total.....	30,265	9,914	133	54,695	106,090	199,864

*This table includes only the work of the field directors; not that of the central office.

TABLE 19.—*Putting a Stop to Soil Pollution.*
EDUCATING THE PEOPLE.

State	THROUGH THE SCHOOLS				Through Public Lectures	
	Number of Teachers in State	TEACHERS REACHED			No. Lectures Given	Est. No. Attending
		By Visit	By Letter	By Bulletin or Leaflet		
Alabama.....	9,220	471	287	.....	335	33,460
Arkansas.....	10,175	2,199	.....	.....	507	50,139
Georgia.....	8,714	129	75	340	711	36,663
Kentucky.....	9,487	384	.....	122	1,698	250,151
Louisiana.....	6,403	360	1,293	1,593	566	58,919
Mississippi.....	10,166	1,646	2,615	1,186	1,452	108,062
North Carolina.	8,422	214	1,250	4,503	75	7,131
South Carolina.	4,255	22	1,470	45,520	168	17,350
Tennessee.....	9,233	483	157	1,068	100	10,709
Texas.....	21,277	300	1,491	1,491	566	46,596
Virginia.....	9,000	405	450	.....	620	52,015
Total.....	106,352	6,613	9,088	55,823	6,798	671,195

TABLE 20.—*Putting a Stop to Soil Pollution.**
EDUCATING THE PEOPLE.

State	Through Bulletins	Through the Press			
	Number of Bulletins and Leaflets	Number of Papers in State	Personally Visited	Letters to Press	Articles Furnished
Alabama.....	94,611	235	25	2	140
Arkansas.....	.....	290	139	.....	207
Georgia.....	26,605	311	33	.....	6
Kentucky.....	67,060	289	411	38	365
Louisiana.....	80,614	198	53	64	79
Mississippi....	100,294	234	146	68	275
North Carolina.	192,423	255	120	1,474	208
South Carolina.	82,100	156	66	31	161
Tennessee.....	44,742	252	79	61	78
Texas.....	128,687	933	97	69	191
Virginia.....	67,000	211	38	.....	110
Total.....	884,136	3,364	1,207	1,807	1,820

*This table includes only the work of the field directors; not that of the central office.

TABLE 21.
COUNTY APPROPRIATIONS (BY YEARS).

State	1910	1911	1912	1913 (by quarters)				Grand Total
				1	2	3	4	
Alabama.....	\$ 60 00	\$ 1,560 00	\$ 1,925 00	\$ 741 00	\$ 200 00	\$ 400 00	\$ 925 00	\$ 2,266 00
Arkansas.....	-----	50 00	200 00	-----	620 62	900 00	2,150 00	3,670 62
Georgia.....	-----	300 00	2,950 00	750 00	800 00	842 50	450 00	2,842 50
Kentucky.....	-----	-----	1,950 00	550 00	2,600 00	1,100 00	400 00	4,650 00
Louisiana.....	-----	1,077 50	1,563 00	300 00	1,025 00	1,171 00	850 00	3,346 00
Mississippi.....	181 50	1,672 48	4,938 99	1,090 00	1,864 92	1,900 00	900 00	5,754 92
North Carolina.....	-----	4,246 28	10,161 59	3,350 16	4,219 03	3,400 00	-----	10,969 19
South Carolina.....	-----	101 20	990 67	575 00	500 00	750 00	850 00	2,675 00
Tennessee.....	-----	450 00	1,200 00	221 65	450 00	400 00	900 00	1,971 65
Texas.....	-----	-----	4,200 00	600 00	2,400 00	1,200 00	2,100 00	6,300 00
Virginia.....	-----	400 00	1,200 00	-----	300 00	850 00	-----	1,150 00
Total.....	\$ 241 50	\$ 9,859 46	\$ 31,279 25	\$ 8,177 81	\$ 14,979 57	\$ 12,913 50	\$ 9,525 00	\$ 45,595 88
								\$ 86,976 09

TABLE 22.
COUNTY EXPENDITURES (BY YEARS).

State	1910	1911	1912	1913 (by quarters)				Grand Total
				1	2	3	4	
Alabama.....	-----	\$ 1,036 60	\$ 974 90	\$ 167 57	\$ 352 63	\$ 274 50	\$ 379 70	\$ 1,174 40
Arkansas.....	-----	50 00	64 22	-----	213 41	488 63	758 77	1,460 81
Georgia.....	-----	89 25	1,885 58	552 78	769 50	385 42	785 68	2,493 38
Kentucky.....	-----	-----	1,750 00	-----	1,150 00	2,500 00	100 00	3,750 00
Louisiana.....	-----	502 50	1,613 00	710 00	416 40	819 30	892 00	2,837 70
Mississippi.....	-----	561 47	4,025 46	1,228 48	918 59	1,459 97	1,401 11	5,008 15
North Carolina.....	-----	3,431 86	8,161 36	1,889 39	2,017 25	2,480 00	1,169 92	7,556 56
South Carolina.....	-----	47 05	600 87	160 00	143 10	210 25	255 18	768 53
Tennessee.....	-----	-----	716 03	246 33	219 63	446 19	587 59	1,499 74
Texas.....	-----	-----	1,059 97	855 10	1,685 35	1,471 50	1,272 70	5,284 65
Virginia.....	-----	152 30	500 00	-----	200 00	700 00	300 00	1,852 30
Total.....	-----	\$ 5,921 03	\$ 21,351 44	\$ 5,809 65	\$ 8,085 86	\$ 11,235 76	\$ 7,902 65	\$ 33,033 92
								\$ 60,306 39

TABLE 23.
EXPENDITURES OF COMMISSION (BY YEARS).

State	1910	1911	1912	1913 (by quarters)				Grand Total
				1	2	3	4	
Alabama.....	\$ 1,444 32	\$ 10,401 98	\$ 12,135 78	\$ 3,437 27	\$ 3,695 21	\$ 3,570 51	\$ 3,883 89	\$ 14,586 88
Arkansas.....	4,474 20	13,376 06	13,243 41	3,245 35	3,404 32	3,633 46	3,725 16	14,008 29
Georgia.....	6,933 86	17,011 03	15,726 44	4,353 58	4,113 45	4,009 23	4,077 88	16,584 14
Kentucky.....	.....	.....	14,823 41	4,794 66	5,859 08	4,604 65	4,629 64	19,888 03
Louisiana.....	549 99	10,497 60	14,260 40	4,133 44	3,659 84	3,812 86	3,828 82	15,434 96
Mississippi.....	6,283 11	17,504 08	19,611 34	5,211 45	4,840 03	5,369 24	4,927 57	20,348 29
North Carolina.....	9,948 76	18,621 06	19,153 84	4,489 65	5,067 93	3,833 49	3,406 63	16,797 70
South Carolina.....	4,029 91	12,133 92	14,086 83	3,233 33	4,054 55	3,953 75	4,076 61	15,318 24
Tennessee.....	5,002 20	15,330 91	16,514 06	3,810 78	3,860 31	4,007 68	3,386 88	15,065 65
Texas.....	.....	.....	4,117 96	3,103 35	3,298 58	3,062 35	3,304 15	12,768 43
Virginia.....	8,353 09	14,778 43	13,637 16	3,332 92	3,803 05	3,849 14	3,436 11	14,421 22
Total.....	\$ 47,019 44	\$129,655 07	\$157,310 63	\$ 43,175 78	\$45,656 35	\$ 43,706 36	\$ 42,663 34	\$175,221 83
Administrative Expenses.....	19,787 91	18,752 07	27,360 97	4,992 04	5,673 98	4,440 56	5,571 59	20,678 17
Grand total.....	\$ 66,807 35	\$148,407 14	\$184,671 60	\$ 48,167 82	\$ 51,330 33	\$ 48,146 92	\$ 48,234 93	\$195,900 00
								\$ 565,780 09

CHAPTER II.

SUMMARY OF ACTIVITIES AND RESULTS BY STATES.*

ALABAMA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Autauga.....	Dr. Orr.....	430	228	53.0
Baldwin.....	Dr. Perdue.....	632	454	71.8
Chambers.....	Dr. Orr.....	380	54	14.2
Chilton.....	Dr. Grote.....	982	694	70.6
Clarke.....	Dr. Perdue.....	473	367	77.5
Hale.....	Dr. Caldwell....	761	468	61.5
Lamar.....	Dr. Grote.....	431	349	80.9
Marengo.....	Drs. Caldwell and Grote....	1,034	606	58.6
Mobile.....	Drs. Grote and Caldwell....	1,360	708	52.0
Tuscaloosa.....	Dr. Orr.....	2,745	857	31.2
Walker.....	Drs. Grote and Orr.....	1,724	391	22.6
Washington....	Dr. Caldwell....	1,350	821	60.8
		12,302	5,997	48.7

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Orr—Autauga.....	—	—	—	14	30	97	141	4.61
Dr. Perdue—Baldwin.....	—	—	—	—	179	29	208	8.60
Dr. Orr—Chambers.....	—	—	—	—	56	189	245	2.28
Dr. Grote—Chilton.....	—	—	—	—	149	96	245	6.08
Dr. Caldwell—Hale.....	—	—	—	—	90	59	149	6.04
Dr. Grote—Lamar.....	—	—	—	—	50	173	223	2.24
Drs. Caldwell and Grote—Marengo.....	—	—	—	—	143	93	236	6.05
Drs. Grote and Caldwell—Mobile.....	1	—	—	—	155	42	198	7.82
Dr. Orr—Tuscaloosa.....	—	—	—	—	29	148	177	1.65
Dr. Grote—Walker.....	—	—	—	—	52	155	207	2.51
Dr. Caldwell—Washington.....	—	—	—	—	121	103	224	5.40
Total.....	1	—	—	14	1,054	1,184	2,253	—

*All summaries will be found in the tables in chapter I.

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Dr. Orr—Autauga.....	\$ 150 00	\$ 65 00	255	274	529	228	76	20	—	—	—	324
Dr. Perdue—Baldwin.....	150 00	50 00	465	199	664	642	200	39	5	—	—	886
Dr. Orr—Chambers.....	50 00	29 00	70	583	653	48	40	2	—	—	—	110
Dr. Grote—Chilton.....	150 00	111 63	972	873	1,845	1,050	514	102	53	5	—	1,733
Dr. Perdue—Clarke.....	100 00	50 35	369	106	475	503	196	74	30	—	—	805
Dr. Caldwell—Hale.....	150 00	95 00	654	566	1,220	602	126	36	21	2	—	877
Dr. Grote—Lamar.....	100 00	52 22	495	273	768	602	180	40	7	2	—	731
Dr. Caldwell—Marengo.....	150 00	133 50	898	1,145	2,043	891	193	51	19	8	—	1,162
Drs. Grote and Caldwell—Mobile.....	150 00	109 70	949	1,242	2,191	998	388	67	11	—	—	1,464
Dr. Orr—Tuscaloosa.....	175 00	175 00	1,112	3,499	4,611	1,120	294	49	5	—	—	1,458
Drs. Grote & Orr—Walker.....	200 00	112 00	585	2,548	3,133	588	172	25	1	—	—	786
Dr. Caldwell—Washington.....	191 00	191 00	924	714	1,638	786	191	54	11	3	—	1,045
Total.....	\$1,716 00	\$1,174 40	7,748	12,022	19,770	8,077	2,562	559	163	20	—	11,381

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	731
Number specimens showing hookworm infection.....	223
Number specimens showing Ascaris.....	8
Number specimens showing Hymenolepis.....	11
Number specimens showing Trichocephalus.....	1
Number specimens showing Oxyuris.....	5
Number specimens showing Tenia Saginata.....	18
Number specimens showing infection.....	266
Number specimens negative.....	465

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 2,500)	
Number of physicians personally visited.....	305
Number of lectures to physicians.....	10
Number of circulars or bulletins to physicians.....	287
Number of letters or post cards to physicians.....	287
Number physicians reporting treating Uncinariasis.....	130
Number of persons reported treated by physicians.....	3,625

VI. EDUCATING THE PEOPLE IN SANITATION.
(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	335
Estimated number attending.....	33,460
2. Through the Schools:	
Number teachers visited.....	471
Number letters to teachers.....	287
Number pamphlets and bulletins to teachers.....	
3. Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	94,611
Number sanitary-privy leaflets distributed.....	*
Number other literature distributed.....	*
4. Through the Press:	
Number papers personally visited.....	25
Number letters to editors.....	2
Number articles furnished for publication.....	140

ARKANSAS.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Clark.....	Dr. Campbell...	590	101	17.1
Conway.....	Dr. Campbell...	612	7	1.1
Faulkner.....	Dr. Jacocks.....	1,289	27	2.1
Independence..	Dr. Fly.....	336	64	19.0
Lee.....	Dr. Bradford...	603	124	20.56
Lonoke.....	Dr. Fly.....	348	7	2.01
Miller.....	Dr. Campbell...	736	421	57.2
St. Francis....	Dr. Bradford...	1,427	439	30.76
Sevier.....	Dr. Campbell...	391	60	15.34
White.....	Dr. Fly.....	269	17	6.3
Woodruff.....	Dr. Bradford....	940	414	44.04
Total.....		7,541	1,681	22.2

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Campbell—Conway.....	—	—	—	—	120	240	360	3.33
Dr. Jacocks—Faulkner.....	—	—	—	—	112	375	487	2.3
Dr. Fly—Independence.....	—	—	—	—	159	347	506	3.14
Dr. Bradford—Lee.....	—	—	—	—	142	536	678	2.09
Dr. Fly—Lonoke.....	—	—	—	—	211	309	520	4.05
Dr. Campbell—Miller.....	—	—	—	—	231	113	344	6.71
Dr. Campbell—Ouachita.....	—	—	—	—	459	133	592	7.75
Dr. Bradford—St. Francis.....	—	—	—	—	228	496	714	3.19
Dr. Campbell—Sevier.....	—	—	—	—	293	111	404	7.25
Dr. Fly—White.....	—	—	—	—	308	197	505	6.09
Total.....	—	—	—	—	2,263	2,847	5,110	—

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Campbell—Clark.....	\$ 200 00	\$ 155 96	129	997	1,126	127	21	3	—	—	—	151
Fly—Cleveland.....	150 00	104 28	243	197	440	238	18	—	—	—	—	256
Campbell—Conway.....	250 00	152 25	13	1,233	1,246	11	4	—	—	—	—	15
Fly—Dallas.....	150 00	149 72	813	1,882	1,695	796	75	1	—	—	—	872
Jacobs—Faulkner.....	300 00	197 37	29	2,427	2,456	26	18	14	1	—	—	59
Bradford—Lee.....	200 00	121 15	187	768	955	167	14	—	—	—	—	181
Fly—Lonoke.....	200 00	132 04	10	549	559	9	1	—	—	—	—	10
Campbell—Miller.....	20 62	20 62	622	634	1,256	378	57	6	—	—	—	441
Campbell—Ouchita.....	150 00	130 10	531	1,305	1,836	561	50	4	—	—	—	615
Bradford—St. Francis.....	150 00	98 54	607	1,581	2,188	382	13	1	—	—	—	396
Campbell—Sevier.....	150 00	88 51	197	1,307	1,504	175	67	2	—	—	—	244
Bradford—Woodruff.....	150 00	110 27	770	1,138	1,908	524	229	—	—	—	—	753
Total.....	\$2,070 62	\$1,460 81	4,151	13,018	17,169	3,394	567	31	1	—	—	3,993

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	446
Number specimens showing hookworm infection.....	73
Number specimens showing Ascaris.....	11
Number specimens showing Hymenolepis.....	11
Number specimens showing Trichocephalus.....	5
Number specimens showing Oxyuris.....	4
Number specimens showing Tenia Saginata.....	8
Other Parasites.....	112
Number specimens showing infection.....	334
Number specimens negative.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 3,600)	
Number of physicians personally visited.....	462
Number of lectures to physicians.....	55
Number of circulars or bulletins to physicians.....	7,022
Number of letters or post cards to physicians.....	
Number physicians reporting treating Uncinariasis.....	*
Number of persons reported treated by physicians.....	1,500

VI. EDUCATING THE PEOPLE IN SANITATION.
(By Field Directors).

1. By Public Lectures:		
Number public lectures delivered.....	.....	507
Estimated number attending.....	.....	50,139
2. Through the Schools:		
Number teachers visited.....	.....	2,199
Number letters to teachers.....	.....	
Number pamphlets and bulletins to teachers.....	.....	
3. Through the Press:		
Number papers personally visited.....	.....	139
Number letters to editors.....	.....	
Number articles furnished for publication.....	.....	207

GEORGIA.**I. INFECTION SURVEY.**

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Ben Hill.....	Dr. Henry.....	488	385	78.
Bulloch.....	Dr. Dobbs.....	376	344	91.4
Burke.....	Dr. Wood.....	369	357	96.74
Hall.....	Dr. Verner.....	573	407	70.9
Hancock.....	Dr. Wood.....	373	151	40.48
Irwin.....	Dr. Henry.....	303	292	96.3
Jefferson.....	Dr. Wood.....	288	262	90.9
Jenkins.....	Dr. Wood.....	422	400	94.78
Liberty.....	Dr. Abercrombie	266	239	89.94
Rabun.....	Dr. Abercrombie	445	254	57.0
Screven.....	Dr. Henry.....	796	771	96.0
Stephens.....	Dr. Verner.....	209	156	74.6
Wayne.....	Dr. Abercrombie	692	555	80.2
Wilcox.....	Dr. Wood.....	213	143	67.13
Wilkes.....	Dr. Wood.....	270	128	47.4
Total.....		6,083	4,844	79.6

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Henry—Ben Hill.....	---	---	---	---	192	[17	209	9.18
Dr. Dobbs—Bulloch.....	---	---	---	---	249	60	309	8.05
Dr. Wood—Burke.....	---	---	---	---	96	138	234	4.1
Dr. Abercrombie—Clinch.....	---	---	---	---	190	50	240	7.9
Dr. Henry—Dooley.....	---	---	---	---	167	7	174	9.6
*Dr. Verner—Hall.....	---	---	---	---	159	239	398	3.99
Dr. Wood—Hancock.....	---	---	---	---	195	88	283	6.89
Dr. Henry—Irwin.....	---	---	---	---	199	13	212	9.4
Dr. Dobbs—*Jackson.....	---	---	---	---	163	[54	217	7.5
Dr. Wood—Jefferson.....	---	---	---	---	201	98	299	6.73
Dr. Wood—Jenkins.....	---	---	---	---	181	55	236	7.6
Dr. Wood—Johnson.....	---	---	---	---	115	85	200	5.75
Dr. Abercrombie—Liberty.....	---	---	---	---	188	22	210	8.95
Dr. Abercrombie—McIntosh.....	---	---	---	---	135	---	135	10.
Dr. Abercrombie—Rabun.....	---	---	---	---	84	61	145	5.79
Dr. Henry—Screven.....	---	---	---	---	513	134	647	7.9
Dr. Verner—Stephens.....	---	---	---	---	242	115	357	6.77
Dr. Wood—Warren.....	---	---	---	---	122	57	179	6.8
Dr. Abercrombie—Wayne.....	---	---	---	---	405	5	410	9.87
Dr. Henry—Wilcox.....	---	---	---	---	83	23	106	7.83
Dr. Wood—Wilkes.....	---	---	---	---	183	124	307	5.96
Total.....	---	---	---	---	4,062	1,445	5,507	---

*Re-survey 1913.

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Henry—Ben Hill.....	\$ 150 00	\$ 149 25	524	280	804	703	181	35	8	1	—	928
Dobbs—Bulloch.....	150 00	146 56	604	237	841	604	140	35	10	1	—	790
Wood—Burke.....	150 00	149 40	757	406	1,163	757	148	37	3	1	—	946
Abercrombie—Charlton.....	75 00	53 40	115	220	335	115	19	9	6	—	—	149
Abercrombie—Clinch.....	75 00	53 40	223	59	282	223	40	12	4	1	—	280
Henry—Dooly.....	150 00	83 86	177	127	304	180	33	11	4	1	—	229
Abercrombie—Glynn.....	150 00	142 69	187	303	490	249	2	—	—	—	—	251
Henry and Verner—Hall.....	100 00	99 54	641	515	1,156	641	79	18	—	—	—	738
Wood—Hancock.....	150 00	110 00	157	429	586	157	24	8	1	—	—	190
Henry—Irwin.....	150 00	133 52	645	248	893	649	85	12	1	1	—	748
Wood—Jefferson.....	150 00	144 76	687	422	1,109	687	134	82	31	14	8	956
Wood—Jenkins.....	150 00	134 75	601	257	858	601	95	22	4	—	—	722
Abercrombie—Liberty.....	100 00	95 00	244	62	306	244	59	15	2	—	—	320
Abercrombie—McIntosh.....	100 00	67 22	169	128	297	169	66	22	—	—	—	257
Henry and Abercrombie—Rabun.....	100 00	97 42	267	329	596	305	63	21	5	1	—	395
Dobbs and Henry—Scriven.....	142 50	142 50	1,508	561	2,069	1,568	582	127	22	—	—	2,299
Verner—Stephens.....	100 00	97 45	231	117	348	231	51	12	—	—	—	294
*Abercrombie—Ware.....	150 00	125 95	357	584	941	366	17	2	1	—	—	386
Wood—Warren.....	100 00	89 25	247	221	468	247	63	16	6	1	—	333
Abercrombie—Wayne.....	150 00	147 33	788	439	1,227	810	115	37	16	11	1	990
Wood—Wilkes.....	150 00	143 50	201	533	734	201	25	7	3	—	—	236
Henry—Wilcox.....	150 00	86 73	255	349	604	299	26	4	—	—	—	329
Total.....	\$2,842 50	\$2,493 38	9,585	6,626	16,211	10,006	2,047	544	127	33	9	12,766

*Indicates second round of Dispensary work.

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	3,789
Number specimens showing hookworm infection.....	1,623
Number specimens showing Ascaris.....	57
Number specimens showing Hymenolepis.....	82
Number specimens showing Trichocephalus.....	
Number specimens showing Fascialis Hepatica.....	
Number specimens showing Oxyuris.....	2
Number specimens showing Strongyloides.....	1
Number specimens showing Tenia Saginata.....	
Number specimens showing infection, 31 double.....	1,730
Number specimens negative.....	2,059

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 3,120)	
Number of physicians personally visited.....	140
Number of lectures to physicians.....	18
Number of circulars or bulletins to physicians.....	9,183
Number of letters or post cards to physicians.....	3,340
Number physicians reporting treating Uncinariasis.....	426
Number of persons reported treated by physicians.....	5,733

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	711
Estimated number attending.....	36,663
2. Through the Schools:	
Number teachers visited.....	129
Number letters to teachers.....	75
Number pamphlets and bulletins to teachers.....	340
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	21,370
Number sanitary-privy leaflets distributed.....	1,435
Number other literature distributed.....	3,800
4. Through the Press:	
Number papers personally visited.....	33
Number letters to editors.....	
Number articles furnished for publication.....	6

VII. NOTES ON WORK OF THE YEAR.

1. The State Board of Education, in classifying its schools, requires under the heading "Standard County School" that two sanitary privies be provided. Up to this time thirty-nine schools have qualified as "standards."

2. Every physician in Georgia, and 143 senior medical students, have been provided with charts on soil pollution and hookworm disease.

3. Definite instruction on hookworm disease is given by the two Georgia medical colleges in grade "A".

4. Hookworm disease has been eradicated from Jekyll's Island.

5. The State Board of Education adopted Ritchie's "Primer of Sanitation" and Hutchinson's Health Series for use in the public schools of Georgia during the next five years.

KENTUCKY.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Christian.....	Dr. Richmond...	1,173	22	1.9
Clark.....	Dr. Shirley.....	3,024	263	8.7
Harlan.....	Dr. Lock.....	5,477	2,279	41.6
Harrison.....	Dr. Shirley.....	2,022	39	1.9
Jefferson.....	Dr. Richmond...	4,852	469	9.6
Laurel.....	Dr. Lock.....	9,340	3,956	42.0
Leslie.....	Dr. Steele.....	3,364	2,149	63.8
McCreary.....	Dr. Steele.....	5,250	2,504	47.7
Madison.....	Drs. Lock and Shirley.....	3,981	745	18.7
Pulaski.....	Dr. Steele.....	8,009	1,608	20.0
Rockcastle.....	Dr. Lock.....	3,747	803	21.4
Rowan.....	Dr. Shirley.....	2,830	1,524	53.8
Whitley.....	Dr. Lock.....	9,503	3,960	40.1
Franklin.....	Dr. Steele.....	518	24	4.6
Bell.....	Dr. Lock.....	9,177	2,912	31.7
Hickman.....	Dr. Richmond..	1,404	20	1.4
Knox.....	Dr. Lock.....	7,919	3,052	38.5
Warren.....	.....	551	42	7.6
		82,141	26,371	32.1

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Richmond—Christian.....	3	---	---	7	120	15	145	11.5
Dr. Shirley—Clark.....	---	---	---	45	1,297	736	2,078	6.7
Dr. Lock—Harlan.....	---	---	1	---	16	261	278	.075
Dr. Shirley—Harrison.....	44	39	1	73	587	288	1,032	14.6
Dr. Lock—Laurel.....	---	---	1	7	132	388	528	2.92
Dr. Steele—Leslie.....	---	---	---	1	52	303	356	1.53
Dr. Steele—McCreary.....	---	1	11	41	521	263	837	7.74
Dr. Shirley—Madison.....	---	---	---	---	207	91	298	6.94
Dr. Steele—Pulaski.....	---	---	1	6	273	621	901	3.25
Dr. Lock—Rockcastle.....	---	---	---	5	59	405	469	1.52
Dr. Shirley—Rowan.....	---	---	---	2	811	2,079	2,892	2.82
Dr. Lock—Whitley.....	---	---	---	---	61	231	292	2.08
Dr. Richmond—Ballard.....	---	---	40	241	424	---	705	17.3
Dr. Richmond—Fulton.....	---	---	10	32	288	---	330	12.6
Dr. Richmond—Union.....	---	---	3	365	---	247	615	15.08
Dr. Richmond—McCracken.....	---	---	---	215	200	---	415	17.77
Dr. Lock—Clay.....	---	---	---	---	191	534	725	1.3
Dr. Richmond—Hickman.....	---	---	40	125	496	124	785	12.8
Total.....	47	40	108	1165	5,735	6,586	13,681	---

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Christian—Richmond.....	\$ 500 00	\$ 500 00	22	1,151	1,173	27	42	—	—	—	—	27
Harlan—Lock.....	250 00	250 00	2,096	2,861	4,957	2,096	37	—	—	—	—	2,133
Harrison—Shirley.....	400 00	400 00	39	1,983	2,022	—	7	—	—	—	—	44
Clark—Shirley.....	300 00	300 00	137	1,417	1,554	9	—	—	—	—	—	9
Jefferson—Richmond.....	250 00	250 00	75	415	490	76	—	—	—	—	—	76
Laurel—Lock.....	250 00	250 00	3,956	5,384	9,340	1,945	42	—	—	—	—	1,987
Leslie—Steele.....	250 00	300 00	1,788	818	2,606	1,788	16	—	—	—	—	1,804
McCreary—Steele.....	300 00	300 00	2,504	2,746	5,250	2,379	1	—	—	—	—	2,380
Madison—Lock & Shirley.....	400 00	400 00	528	2,553	3,381	413	2	—	—	—	—	415
Pulaski—Steele.....	300 00	300 00	1,608	6,401	8,009	1,408	—	—	—	—	—	1,406
Rockcastle—Lock.....	200 00	200 00	803	2,944	3,747	808	1	—	—	—	—	806
Rowan—Shirley.....	100 00	100 00	1,436	983	2,419	1,436	2	—	—	—	—	1,438
Whitley—Lock.....	200 00	200 00	2,219	3,269	5,488	1,074	25	—	—	—	—	1,099
Total.....	\$3,750 00	\$3,750 00	17,211	33,225	50,436	13,491	138	—	—	—	—	13,629

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	26,078
Number specimens showing hookworm infection.....	7,284
Number specimens showing Ascaris.....	7,958
Number specimens showing Hymenolepis.....	535
Number specimens showing Trichocephalus.....	2,897
Number specimens showing Oxyuris.....	96
Number specimens showing Tenia Saginata.....	5
Number specimens showing infection.....	11,441
Number specimens negative.....	14,637

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 3,340)	
Number of physicians personally visited.....	5,227
Number of lectures to physicians.....	75
Number of circulars or bulletins to physicians.....	32,139
Number of letters or post cards to physicians.....	16,610
Number physicians reported treated Uncinariasis.....	314
Number of persons reported treated by physicians.....	29,720

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	1,698
Estimated number attending.....	250,151
2. Through the Schools:	
Number teachers visited.....	384
Number letters to teachers.....	
Number pamphlets and bulletins to teachers.....	122
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	67,060
Number sanitary-privy leaflets distributed.....	
Number other literature distributed.....	
4. Through the Press:	
Number papers personally visited.....	411
Number letters to editors.....	38
Number articles furnished for publication.....	365

LOUISIANA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

Parish	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Avoyelles.....	Dr. Adams.....	785	52	6.6
Bossier.....	Drs. Baucum and Trezevant....	1,152	414	35.9
Jackson.....	Dr. Trezevant...	2,838	2,267	79.8
Red River.....	Dr. Baucum....	524	234	44.6
Sabine.....	Dr. McKinney...	2,502	1,208	48.2
Allen.....	Dr. McKinney...	1,480	757	51.1
Ascension.....	Dr. Adams.....	376	40	10.6
Beauregard.....	Dr. McKinney...	3,100	1,866	60.2
Calcasieu.....	Dr. McKinney...	1,414	463	32.7
Caldwell.....	Dr. Trezevant...	2,625	1,310	49.9
East Baton Rouge.....	Dr. Adams.....	1,054	209	19.8
East Feliciana..	Dr. Adams.....	750	159	21.2
Grant.....	Dr. Baucum....	2,038	1,222	59.9
Iberville.....	Dr. Adams.....	243		
LaSalle.....	Dr. Baucum....	1,357	704	51.8
Natchitoches...	Dr. Baucum....	1,194	647	54.1
Ouachita.....	Dr. Wright.....	703	493	70.1
Point Coupee...	Dr. Adams.....	219	3	1.3
West Feliciana..	Dr. Adams.....	417	8	1.9
Total.....		24,771	12,056	48.9

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at least 100 country homes.

Doctor and Parish	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Adams—Avoyelles.....				195	210	5	410	17.0
Drs. Baucum and Trezevant—Bossier.....					162	178	340	4.7
Dr. Trezevant—Jackson.....				1	108	455	564	1.9
Dr. Baucum—Red River.....					71	134	205	3.4
Dr. McKinney—Sabine.....					39	422	461	.8
Dr. McKinney—Allen.....				5	160	140	305	6.41
Dr. Adams—Ascension.....		2	15	87	177	10	291	16.6
Dr. McKinney—Beauregard.....					275	173	448	6.1
Dr. McKinney—Calcasieu.....				13	200	31	244	9.5
Dr. Trezevant—Caldwell.....				1	321	582	904	3.55
Dr. Adams—East Baton Rouge.....			6	56	167	63	292	11.3
Dr. Baucum—Grant.....					91	133	224	4.0
Dr. Adams—Iberville.....		2	21	80	244	21	368	15.3
Dr. Baucum—LaSalle.....					38	176	214	1.7
Dr. Adams—Natchitoches.....					133	118	251	5.29
Dr. Wright—Ouachita.....				6	215	317	538	4.2
Dr. Adams—Point Coupee.....	4		8	57	181	40	290	13.8
Dr. Adams—W. Baton Rouge.....				41	170		211	12.9
Dr. Adams—West Feliciana.....				39	153	61	253	9.9
Total.....	4	4	50	581	3,115	3,059	6,813	

III. WORK OF COUNTY DISPENSARIES.

Doctor and Parish	Amount of Parish Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Porter—Allen.....	\$ 200 00	\$ 200 00	757	723	1,480	757	255	18				1,030
Adams—Ascension.....	100 00	32 00	40	336	376	40						40
Adams—Avoelles.....	100 00	42 00	52	733	785	50						51
McKinney—Beauregard..	275 00	275 00	1,866	1,234	3,100	1,814	755	28				2,599
Baucum—Bossier.....	250 00	250 00	414	738	1,152	414	252	25	2			691
Porter—Calcasieu.....	200 00	200 00	463	951	1,414	463	463	463				1,389
Trezevant—Caldwell.....	271 00	271 00	1,310	1,315	2,625	1,197	90	22	2			1,311
Adams—E. Baton Rouge..	100 00	34 40	137	564	701	137	6					143
Baucum—Grant.....	150 00	150 00	1,222	816	2,038	1,250	407	44	1			1,702
Adams—Iberville.....	100 00	17 00		243	243							
Trezevant—Jackson.....	200 00	200 00	2,267	571	2,838	1,954	287	26				2,267
Baucum—Natchitoches..	200 00	200 00	647	547	1,194	647	363	62	3			1,075
Adams—Point Coupee....	100 00	35 00	3	216	219	3						6
Baucum—Red River.....	200 00	200 00	224	290	524	224	126					374
McKinney—Sabine.....	200 00	200 00	1,208	1,294	2,502	1,208	557	12	2			1,765
Adams—W. Baton Rouge..	100 00	21 30	1	187	188	1						1
Adams—W. Feliciana.....	100 00	60 00	8	409	417	8						8
Adams—E. Feliciana.....	100 00	100 00	159	591	750	159	33	8				200
Wright—Ouachita.....	200 00	200 00	493	210	703	520	77	14	2			913
Baucum—La Salle.....	150 00	150 00	704	653	1,357	691	220	4				915
Total.....	\$3,296 00	\$2,837 70	11,985	12,621	24,606	11,947	3,895	726	12			16,480

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	1,862
Number specimens showing hookworm infection.....	418
Number specimens showing Ascaris.....	98
Number specimens showing Hymenolepis.....	14
Number specimens showing Trichocephalus.....	99
Number specimens showing Oxyuris.....	2
Number specimens showing Tenia Saginata.....	631
Number specimens showing infection.....	1,231
Number specimens negative.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 2,039)	
Number of physicians personally visited.....	265
Number of lectures to physicians.....	6
Number of circulars or bulletins to physicians.....	5,275
Number of letters or post cards to physicians.....	7,850
Number physicians reporting treating Uncinariasis.....	185
Number of persons reported treated by physicians.....	5,011

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	566
Estimated number attending.....	58,919
2. Through the Schools:	
Number teachers visited.....	360
Number letters to teachers.....	1,293
Number pamphlets and bulletins to teachers.....	1,593
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	44,272
Number sanitary-privy leaflets distributed.....	8,899
Number other literature distributed.....	27,443
4. Through the Press:	
Number papers personally visited.....	53
Number letters to editors.....	64
Number articles furnished for publication.....	79

VII. NOTES ON WORK OF QUARTER.

1. Reports show that 1,606 sanitary privies were built in the rural communities of Louisiana during 1913.

2. Mr. W. N. Meyer, Superintendent, Camp Curtis, Calcasieu parish, offered to his employes one month's house rent free for the person who had the cleanest premises, the field director of the sanitary commission to act as Judge.

3. The work has been endorsed and recommended to other parishes by the police jury and school board in practically every parish in which the campaign has been conducted.

4. The superintendents of education in the twenty-two parishes reporting, have stated that 272 closets were built during the year 1913, twenty-four of which were water-flush and 216 Stiles's sanitary closets.

MISSISSIPPI.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Smith.....	Dr. Whitfield.....	1,795	1,556	86.6
Rankin.....	Dr. Whitfield.....	1,348	725	53.7
Chickasaw...	Dr. Whitfield.....	1,003	149	14.8
Carroll.....	Dr. Whitfield.....	1,562	20	.01
Webster.....	Dr. Whitfield.....	1,608	240	14.9
Montgomery.	Dr. Whitfield.....	1,276	188	14.7
Lauderdale..	Dr. Howard.....	2,157	1,211	56.1
Grenada.....	Dr. Howard.....	1,547	18	.01
Hinds.....	Dr. Howard.....	393	14	.03
Lefflore.....	Dr. Howard.....	1,251	6	.004
Madison.....	Dr. Howard.....	1,934	51	.02
Copiah.....	Dr. Buchanan.....	1,832	970	52.9
Noxubee.....	Dr. Buchanan.....	2,181	122	.05
Newton.....	Dr. Buchanan.....	2,547	1,456	57.1
Lawrence....	Dr. Buchanan.....	1,753	1,091	62.2
*Marion.....	Dr. Buchanan.....	3,140	2,490	79.02
Kemper.....	Dr. Gill.....	1,184	815	68.8
Oktibbeha..	Dr. Gill.....	1,063	231	21.7
Jefferson....	Dr. Dedwylder....	1,071	158	14.7
Claiborne....	Dr. Dedwylder....	847	4	.004
Calhoun.....	Dr. Dedwylder....	1,458	149	10.2
Holmes.....	Dr. Dedwylder....	519	27	.05
Adams.....	Dr. Dedwylder....	804	5	.006
Lowndes....	Drs. Gill & Boswell	775	161	20.7
Prentiss....	Dr. Boswell.....	2,562	1,336	52.1
Lee.....	Dr. Boswell.....	1,320	142	10.7
Clay.....	Dr. Boswell.....	1,098	21	.01
Total.....		40,028	13,356	33.3

*Indicates second survey.

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Howard—Lauderdale.....	---	---	---	2	766	663	1,431	5.3
Dr. Howard—Grenada.....	---	---	---	---	159	400	559	2.8
Dr. Howard—Hinds.....	---	---	---	---	345	325	670	5.1
Dr. Howard—Leflore.....	---	1	---	---	316	286	603	5.3
Dr. Howard—Madison.....	1	1	---	---	230	182	414	5.9
Dr. Whitfield—Rankin.....	---	---	---	---	44	169	213	2.06
Dr. Whitfield—Chickasaw.....	---	---	---	---	163	219	382	4.2
Dr. Whitfield—Carroll.....	---	---	---	---	53	249	302	1.7
Dr. Whitfield—Webster.....	---	---	---	---	16	92	108	1.4
Dr. Buchanan—Copolah.....	---	---	---	---	529	---	529	10.
Dr. Buchanan—Noxubee.....	---	---	---	11	486	---	497	10.3
Dr. Buchanan—Newton.....	---	---	---	---	654	173	827	7.9
Dr. Buchanan—Lawrence.....	---	---	---	---	304	219	523	5.8
*Dr. Buchanan—Marion.....	---	---	---	---	446	---	446	10.
Dr. Dedwylder—Jefferson.....	---	---	30	15	580	1,327	1,952	3.93
Dr. Dedwylder—Claiborne.....	---	---	---	---	212	619	831	2.5
Dr. Dedwylder—Calhoun.....	---	---	---	---	785	1,057	1,842	4.3
Dr. Dedwylder—Holmes.....	---	---	55	---	905	886	1,846	6.4
Dr. Dedwylder—Adams.....	---	---	---	---	122	587	709	1.7
Dr. Gill—Kemper.....	---	---	---	---	158	451	609	2.5
Dr. Gill—Oktibbeha.....	---	---	---	---	141	388	529	2.6
Dr. Gill—Lowndes.....	---	---	---	---	304	278	582	5.2
Dr. Boswell—Prentiss.....	---	---	---	---	32	262	294	1.0
Dr. Boswell—Lee.....	---	---	---	---	298	235	533	5.5
Dr. Boswell—Clay.....	---	---	---	---	266	252	518	5.1
Dr. Boswell—Benton.....	---	---	---	---	16	271	287	.5
Dr. Buchanan—Jeff Davis.....	---	---	15	---	472	1,235	1,722	3.2
Dr. Buchanan—Washington.....	---	---	---	---	215	65	280	7.6
Dr. Buchanan—Neshoba.....	---	---	---	---	71	166	237	2.9
Dr. Dedwylder—Harrison.....	---	---	---	10	148	166	324	5.3
Dr. Dedwylder—George.....	---	---	---	12	83	51	146	7.7
Total.....	1	2	100	50	9,326	11,326	20,805	-----

*Indicates second survey.

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Dr. Whitfield-Smith.....	\$ 250 81	\$ 250 81	2,187	874	3,061	2,194	1,971	1,960	4	3	-----	6,132
Dr. Whitfield-Rankin.....	250 00	233 26	918	1,375	2,293	872	778	778	-----	-----	-----	2,428
Dr. Whitfield-Chickasaw.....	200 00	183 49	196	1,819	2,015	176	174	174	1	1	-----	326
Dr. Whitfield-Webster.....	200 00	198 47	340	3,477	3,817	330	330	330	-----	-----	-----	990
Dr. Whitfield-Montgomery.....	200 00	182 90	183	1,514	1,697	194	194	194	-----	-----	-----	582
Dr. Howard-Lauderdale.....	311 00	311 00	1,891	3,395	5,286	2,468	2,467	648	11	2	-----	5,596
Dr. Howard-Grenada.....	200 00	176 05	38	2,290	2,328	37	37	15	-----	-----	-----	89
Dr. Howard-Hinds.....	300 00	269 45	291	3,220	3,511	218	218	8	-----	-----	-----	444
Dr. Howard-Leflore.....	200 00	167 75	4	1,255	1,259	4	4	3	-----	-----	-----	11
Dr. Howard-Madison.....	250 00	250 00	64	2,438	2,502	63	63	32	-----	-----	-----	138
Dr. Whitfield-Carroll.....	200 00	Not complete	29	3,285	3,314	31	29	29	-----	-----	-----	89
Dr. Buchanan-Copiah.....	200 00	174 00	1,127	1,226	2,353	1,165	1,126	1,126	-----	-----	-----	3,417
Dr. Buchanan-Norfolk.....	200 00	115 00	214	3,496	3,710	182	182	178	-----	-----	-----	542
Dr. Buchanan-Newton.....	215 00	215 00	1,944	2,113	4,057	1,713	1,540	1,393	-----	-----	-----	4,046
Dr. Buchanan-Lawrence.....	200 00	189 08	1,360	1,256	2,616	1,480	1,480	1,480	-----	-----	-----	4,440
*Dr. Buchanan-Marion.....	200 00	188 29	2,954	1,091	4,045	2,689	2,689	2,689	-----	-----	-----	8,06
Dr. Gill-Kemper.....	230 00	229 80	1,029	1,784	2,813	1,060	1,073	988	-----	-----	-----	3,121
Dr. Gill-Okfuskee.....	215 00	208 43	312	1,548	1,860	314	319	290	-----	-----	-----	923
Drs. Gill and Boswell-Lowndes.....	200 00	200 00	209	1,206	1,415	210	210	209	-----	-----	-----	629
Dr. Dedwyler-Jefferson.....	200 00	147 87	214	1,850	2,064	210	210	209	-----	-----	-----	536
Dr. Dedwyler-Clatsop.....	200 00	113 00	8	1,236	1,244	214	175	147	-----	-----	-----	8
Dr. Dedwyler-Columbia.....	200 00	125 00	273	2,868	3,141	273	260	239	-----	-----	-----	772
Dr. Dedwyler-Holmes.....	200 00	160 22	50	1,376	1,426	51	51	51	-----	-----	-----	153
Dr. Boswell-Prentiss.....	249 92	249 92	1,385	2,945	4,330	1,449	878	807	-----	-----	-----	3,137
Dr. Boswell-Lea.....	200 00	186 74	212	2,047	2,259	217	211	210	-----	-----	-----	638
Dr. Boswell-Clay.....	200 00	167 38	30	1,432	1,462	30	30	30	-----	-----	-----	90
Dr. Dedwyler-Adams.....	125 00	111 43	6	1,103	1,109	6	6	6	-----	-----	-----	18
Total.....	\$5,976 73	\$5,008 15	17,468	52,519	69,987	17,648	16,495	14,014	19	6	-----	48,182

*Indicates second round of dissection.

*Indicates second round of dispensary work.

IV. WORK OF LABORATORY

	Total During 1913
Number specimens examined.....	2,805
Number specimens showing hookworm infection.....	664
Number specimens showing <i>Ascaris</i>	23
Number specimens showing <i>Hymenolepis</i>	5
Number specimens showing <i>Trichocephalus</i>	4
Number specimens showing <i>Oxyuris</i>	1
Number specimens showing <i>Tenia Saginata</i>	1
Number specimens showing infection.....	697
Number specimens negative.....	1,908

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 1,783)	-
Number of physicians personally visited.....	677
Number of lectures to physicians.....	3
Number of circulars or bulletins to physicians.....	1,042
Number of letters or post cards to physicians.....	815
Number physicians reporting treating Uncinariasis.....	592
Number of persons reported treated by physicians.....	5,614

VI. EDUCATING THE PEOPLE IN SANITATION. (By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	1,452
Estimated number attending.....	108,062
2. Through the Schools:	
Number teachers visited.....	1,646
Number letters to teachers.....	2,615
Number pamphlets and bulletins to teachers.....	1,188
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	54,481
Number sanitary-privy leaflets distributed.....	21,007
Number other literature distributed.....	24,806
4. Through the Press:	
Number papers personally visited.....	146
Number letters to editors.....	68
Number articles furnished for publication.....	275

VII. NOTES ON WORK OF THE YEAR.

1. The results obtained in Mississippi during 1913 greatly exceed those obtained during any previous year since the organization of the work.
2. The number of treatments are less, however, due to the fact that the campaign has been conducted in lightly infected counties.
3. It is most remarkable that the response for examination for hookworm disease has been even greater than during the two preceding years, although the work was done previous to 1913 in the heavily infected counties. This shows that the people have been educated concerning public health work to a considerable extent. It is not nearly so difficult now as at the outset to obtain the co-operation of the public in this work.
4. Much emphasis has been placed on lecturing to the colored schools during the present year.
5. The salaries of county health officers have been increased in many counties during the present year.
6. There has been a marked improvement in the sanitary condition of the towns and cities of the State.
7. The Bureau of Vital Statistics has been splendidly organized and the results obtained during the past year are most encouraging.
8. The work of the laboratory has greatly increased during the year 1913, and it is now upon a thoroughly organized basis.
9. The women's clubs have given much more active support to health work than perhaps during any corresponding period in the history of the State. These clubs can be and are being used most effectively in improving the sanitary environment of the communities and towns of the State.
10. The sanitary conditions of the homes and schools of the State is steadily improving.
11. During the present year a conference was held for the benefit of county and municipal health officers, and there were present from seventy-nine counties of the State sixty-five county health officers. The meeting was pronounced successful from every point of view.
12. During the State Fair the State Board of Health prepared a large health exhibit, which was seen by at least 25,000 people.

NORTH CAROLINA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Alamance . . .	Dr. Washburn . . .	1,126	224	19.9
Alexander . . .	Dr. Jacocks	1,891	1,290	68.2
Alleghany . . .	Dr. Sloan	617	10	1.6
Avery	Dr. Jacocks	1,533	62	4.05
Cabarrus	Dr. Jacocks	1,476	47	3.1
Camden	Dr. Leonard	664	240	36.1
Caswell	Dr. Washburn	627	84	13.3
Cherokee	Dr. Absher	1,050	737	70.1
Clay	Dr. Collinson	669	301	44.9
Currituck . . .	Dr. Leonard	1,526	543	35.5
Dare	Dr. Jacocks	1,025	335	32.6
Durham	Dr. Sloan	297	120	40.4
Forsyth	Dr. Sloan	665	269	40.4
Guilford	Dr. Jones	524	90	17.1
Haywood	Dr. Washburn	1,680	170	10.1
Hoke	Dr. Hughes	585	365	62.3
Hyde	Dr. Pridgen	749	280	37.3
Jackson	Dr. Absher	1,202	774	64.3
Macon	Dr. Absher	1,614	1,212	75.0
Madison	Dr. Collinson	847	110	12.9
Mecklenburg . .	Drs. Covington and Jacocks	2,695	324	12.0
Moore	Dr. Hughes	1,270	671	52.7
Pamlico	Dr. Strosnider	829	522	62.8
Pasquotank . .	Dr. Jacocks	978	102	10.4
Perquimans . .	Dr. Leonard	895	163	18.2
Person	Dr. Sloan	644	245	38.0
Polk	Dr. Covington	1,370	1,065	77.7
Rockingham . .	Dr. Sloan	1,235	666	53.9
Swain	Dr. Washburn	1,652	842	50.9
Transylvania . .	Dr. Covington	561	175	31.1
Tyrrell	Dr. Pridgen	877	468	53.3
Union	Dr. Covington	3,452	90	2.6
Vance	Dr. Sloan	538	206	38.2
Washington . .	Dr. Pridgen	888	528	59.4
*Scotland . . .	Dr. Hughes	231	89	38.5
*Watauga . . .	Dr. Jacocks	338	7	2.0
Total		38,820	13,434	34.5

*Surveys made in 1912, but complete work not reported.

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Washburn—Alamance	7	---	1	39	281	170	498	9.1
Dr. Jacocks—Alexander	---	---	---	---	46	160	206	2.2
Dr. Sloan—Alleghany	---	---	---	---	29	116	145	2.0
Dr. Jacocks—Avery	---	---	---	---	62	199	261	2.3
Dr. Jacocks—Cabarrus	1	---	---	---	82	173	256	3.6
Dr. Leonard—Camden	---	---	---	---	115	21	136	8.4
Dr. Washburn—Caswell	1	---	4	29	127	101	262	8.7
Dr. Absher—Cherokee	---	---	2	---	93	235	330	3.1
Dr. Collinson—Clay	---	---	---	---	110	485	595	1.8
Dr. Leonard—Currituck	---	---	---	1	206	95	302	6.9
Dr. Jacocks—Dare	---	---	---	---	112	220	332	3.3
Dr. Sloan—Durham	3	---	---	2	96	45	146	8.9
Dr. Sloan—Forsyth	2	---	---	6	106	87	201	7.0
Dr. Washburn—Haywood	---	---	---	31	274	110	415	8.4
Dr. Hughes—Hoke	---	---	---	---	111	169	280	3.9
Dr. Pridgen—Hyde	---	---	---	---	206	534	740	2.7
Dr. Absher—Jackson	1	1	3	---	100	281	386	3.4
Dr. Absher—Macon	---	---	2	---	110	255	367	3.2
Dr. Collinson—Madison	---	---	---	---	264	407	671	3.9
Drs. Covington and Jacocks—Mecklenburg	1	---	---	---	348	226	575	6.0
Dr. Hughes—Moore	---	---	---	---	77	168	245	3.1
Dr. Stroenider—Pamlico	---	---	---	---	39	194	233	1.67
Dr. Jacocks—Pasquotank	---	---	---	---	182	171	353	5.15
Dr. Leonard—Perquimans	---	---	---	---	140	39	179	7.8
Dr. Sloan—Person	---	---	---	---	144	191	335	4.3
Dr. Covington—Polk	---	---	---	---	48	184	232	2.06
Dr. Sloan—Rockingham	---	---	---	1	134	190	325	4.2
Dr. Washburn—Swain	---	---	---	9	76	129	214	4.6
Dr. Covington—Transylvania	---	---	---	---	119	162	281	4.2
Dr. Pridgen—Tyrrell	1	---	---	1	102	166	270	4.2
Dr. Covington—Union	---	---	---	---	150	225	375	4.0
Dr. Sloan—Vance	---	---	---	---	88	93	181	4.8
Dr. Pridgen—Washington	---	---	---	---	280	286	566	4.94
Total	17	1	12	119	4,457	6,287	10,893	-----

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Washburn-Alamance.....	\$ 250 00	\$ 230 34	382	2,703	3,085	382	389	307	2	-----	-----	1,080
Jacks-Alexander.....	201 03	201 03	1,872	2,537	4,409	1,794	1,520	1,364	8	-----	-----	4,686
Sloan-Alleghany.....	100 00	68 38	16	1,410	1,426	19	16	15	-----	-----	-----	50
Jacks-Avery.....	200 00	213 60	78	2,665	2,743	77	77	77	-----	-----	-----	231
*Pridgen-Beaufort.....	250 00	209 50	224	294	518	224	223	183	5	-----	-----	635
Jacks-Cabarrus.....	250 00	227 62	90	3,562	3,652	82	73	68	5	1	-----	229
Leonard-Camden.....	200 00	142 26	322	1,255	1,577	319	318	315	-----	-----	-----	952
Washburn-Caswell.....	250 00	201 08	128	1,614	1,742	128	85	35	7	3	-----	228
Absher-Cherokee.....	200 00	155 38	860	992	1,852	860	435	280	7	-----	-----	1,562
Collinson-Clay.....	200 00	129 86	445	1,305	1,750	220	270	228	1	-----	-----	919
*Leonard-Craven.....	300 00	184 66	181	1,547	1,728	176	149	139	-----	-----	-----	464
Leonard-Currituck.....	200 00	139 62	876	3,276	4,152	841	841	841	-----	-----	-----	2,523
Jacks-Dare.....	200 00	133 19	446	1,423	1,869	444	444	444	2	-----	-----	1,334
Leonard & P. idgen, Davie	200 00	186 80	303	1,131	1,434	301	244	230	-----	-----	-----	775
Sloan-Durham.....	250 00	170 25	489	1,530	2,019	448	281	263	-----	-----	-----	992
Sloan-Forsyth.....	250 00	223 45	585	2,172	2,757	557	487	395	26	-----	-----	1,465
Washburn-Haywood.....	250 00	200 84	200	2,919	3,119	200	216	197	8	-----	-----	621
Hughes-Hoke.....	200 00	175 34	588	665	1,283	588	349	119	11	-----	-----	1,067
Pridgen-Hyde.....	200 00	190 98	508	1,522	2,030	427	383	362	12	5	-----	1,199
Absher-Jackson.....	200 00	200 00	969	1,642	2,611	969	701	515	9	-----	-----	2,194
Absher-Macon.....	200 00	190 00	1,502	2,057	3,559	1,302	1,096	535	2	-----	-----	3,135
Collinson-Madison.....	200 00	186 26	163	1,769	1,952	162	153	126	-----	-----	-----	441
Covington and Jacks-Mecklenburg.....	500 00	448 27	492	5,352	5,854	488	302	304	55	4	1	1,214
Leonard-Mitchell.....	200 00	145 70	331	1,594	1,925	330	255	248	1	-----	-----	834
Covington-Montgomery.....	200 00	200 16	650	2,730	3,380	638	415	304	78	9	7	1,451
Hughes-More.....	250 00	241 58	1,280	2,054	3,354	1,279	895	213	21	3	-----	2,411
Stratton-Pamlico.....	250 00	182 52	814	1,295	2,109	814	630	445	22	-----	-----	1,911
Jacks-Pasquotank.....	200 00	132 94	138	1,892	2,030	129	126	125	4	-----	-----	384
Leonard-Perquimans.....	200 00	132 13	224	1,700	1,924	223	169	106	-----	-----	-----	498
Sloan-Person.....	250 00	151 30	429	1,526	1,955	433	346	319	3	-----	-----	1,101
Covington-Polk.....	217 61	217 61	1,736	1,913	3,649	1,713	1,324	995	364	115	38	4,549
Sloan-Rockingham.....	250 39	250 39	1,341	2,882	4,223	1,224	849	684	4	-----	-----	2,761
Leonard-Rowan.....	250 00	159 01	310	3,484	3,794	310	246	239	2	2	-----	799
Washburn-Swan.....	200 00	176 03	972	1,841	2,813	827	820	810	5	5	-----	2,472
Covington-Transylvania.....	200 00	173 71	281	1,413	1,694	281	223	171	71	12	3	1,761
Pridgen-Tyrrel.....	200 00	152 11	861	1,561	2,422	764	671	667	5	-----	-----	2,107
Covington-Union.....	329 69	329 69	131	7,806	7,937	128	115	108	43	-----	-----	394
Sloan-Vance.....	250 00	203 37	401	1,280	1,681	397	300	264	4	-----	-----	965
Pridgen-Washington.....	200 00	170 00	1,018	2,005	3,023	960	800	798	5	-----	-----	2,563
Jones-Guilford.....	Co. Health	h Office	102	521	623	79	14	8	1	-----	-----	102
Total.....	\$5,988 88	\$7,556 56	22,738	81,869	104,607	21,937	17,290	13,826	703	159	5	54,059

*Indicates second round of dispensary work

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	3,280
Number specimens showing hookworm infection.....	410
Number specimens showing Ascaris.....	272
Number specimens showing Hymenolepis.....	80
Number specimens showing Trichocephalus.....	6
Number specimens showing Oxyuris.....	7
Number specimens showing Strongyloides.....	-----
Number specimens showing Tenia Saginata.....	3
Number specimens showing infection.....	778
Number specimens negative.....	2,502

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 1,847)	
Number of physicians personally visited.....	394
Number of lectures to physicians.....	4
Number circulars or bulletins to physicians.....	32,309
Number of letters or post cards to physicians.....	5,674
Number physicians reporting treating Uncinariasis.....	67
Number of persons reported treated by physicians.....	11,903

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	75
Estimated number attending.....	7,131
2. Through the Schools:	
Number teachers visited.....	214
Number letters to teachers.....	1,250
Number pamphlets and bulletins to teachers.....	4,503
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	74,300
Number sanitary-privy leaflets distributed.....	41,262
Number other literature distributed.....	76,861
4. Through the Press:	
Number papers personally visited.....	120
Number letters to editors.....	1,474
Number articles furnished for publication.....	203
5. Miscellaneous:	
Circulars.....	9,200

VII. NOTES ON WORK OF THE YEAR.

1. Ninety-nine of the one hundred counties in the State have made appropriations for dispensary work. It has been completed in ninety-six of these counties, and two counties have had second campaigns.

2. Hookworm disease has been practically eradicated from Knott's Island, where there live 567 persons, 130 families. 560 of these persons have been examined for hookworm disease; ninety-four were found infected, and 92 have been treated. This community employs a physician for his entire time. Considerable headway has been made in examining the residents for malaria, and in treating those found to be carriers.

3. North Carolina now has ten whole-time health officers and a supervising State director. Two additional counties provided funds for the employment of whole-time health officers.

SOUTH CAROLINA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Abbeville.....	Dr. Routh.....	306	34	11.1
Aiken.....	Dr. Riser.....	967	476	49.2
Anderson.....	Dr. Routh.....	1,458	422	28.9
Barnwell.....	Dr. Howell.....	545	425	77.9
Berkley.....	Dr. Riser.....	322	298	92.5
Cherokee.....	Dr. Rodgers.....	625	190	30.4
Dorchester.....	Dr. Rodgers.....	1,304	802	61.5
Fairfield.....	Dr. Howell.....	389	117	30.0
Georgetown.....	Dr. Howell.....	378	344	91.0
Greenville.....	Drs. Howell and Riser.....	2,208	1,396	63.2
Greenwood.....	Dr. Riser.....	379	14	.037
Lancaster.....	Dr. Rodgers.....	1,481	467	31.5
Laurens.....	Dr. Routh.....	1,293	242	18.7
Newberry.....	Dr. Routh.....	586	41	6.9
Pickens.....	Dr. Rodgers.....	1,011	567	56.0
Union.....	Dr. Riser.....	690	180	26.0
York.....	Dr. Howell.....	457	103	22.5
Total.....		14,399	6,118	42.4

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Routh—Abbeville.....	---	---	---	---	97	140	237	4.0
Dr. Riser—Aiken.....	5	---	---	---	211	104	320	8.1
Dr. Routh—Anderson.....	17	---	---	---	108	134	259	10.7
Dr. Howell—Barnwell.....	---	---	---	---	90	131	221	4.0
Dr. Riser—Berkley.....	---	---	---	---	38	87	125	3.0
Dr. Rodgers—Cherokee.....	---	---	---	---	62	98	160	3.8
Dr. Rodgers—Dorchester.....	---	---	---	---	122	84	206	5.9
Dr. Howell—Fairfield.....	---	---	---	---	105	168	273	3.8
Dr. Howell—Georgetown.....	---	---	---	---	36	210	246	1.4
Drs. Howell and Riser—Greenville.....	---	---	---	---	250	250	500	5.0
Dr. Riser—Greenwood.....	2	---	---	---	155	57	214	8.0
Dr. Routh—Hampton.....	---	---	---	---	153	65	218	7.0
Dr. Routh—Newberry.....	2	---	---	---	177	100	279	7.0
Dr. Rodgers—Pickens.....	1	---	---	---	107	133	241	4.8
Dr. Rodgers and Howell—Sumter.....	---	---	---	---	96	76	172	5.5
Dr. Riser—Union.....	---	---	---	---	80	137	217	3.6
Total.....	27	---	---	---	1,887	1,974	3,888	-----

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments	
		Pos.	Neg.	Total	One	Two	Three	Four	Five	Six		
Routh—Abbeville.....	\$ 50 00	\$ 4 50	70	719	789	69	55	38	35	16	2	215
Riser—Aiken.....	50 00	15 00	703	893	1,596	474	331	265	244	---	---	1,314
Routh—Anderson.....	100 00	48 43	666	2,871	3,537	666	530	456	430	18	4	2,104
Howell—Barnwell.....	100 00	55 25	868	976	1,844	763	666	615	588	22	7	2,661
Riser—Berkley.....	150 00	75 00	586	275	861	586	472	437	399	7	---	1,901
Rodgers—Cherokee.....	150 00	58 75	1,004	3,488	4,492	880	775	695	631	17	3	3,001
Rodgers—Dorchester.....	50 00	41 75	1,249	1,468	2,717	1,247	541	354	286	54	27	2,509
Howell—Fairfield.....	50 00	18 35	207	776	983	1,220	192	182	180	123	71	968
*Howell—Georgetown.....	150 00	31 00	571	231	802	571	464	459	452	9	3	1,958
Riser and Howell—Green-ville.....	150 00	164 00	2,418	4,011	6,429	2,623	2,284	2,057	1,878	589	311	9,742
Riser—Greenwood.....	50 00	5 00	23	719	742	29	23	23	23	6	1	104
*Routh—Hampton.....	100 00	22 00	172	88	260	172	69	68	68	2	---	380
Rodgers—Lancaster.....	50 00	45 00	657	1,577	2,234	654	553	479	214	10	---	1,910
Routh—Laurens.....	300 00	80 00	399	2,199	2,598	390	367	211	185	2	---	1,155
Routh—Newberry.....	75 00	8 00	73	1,198	1,271	75	52	41	37	---	---	205
Rodgers—Pickens.....	150 00	31 50	918	1,541	2,459	895	713	601	518	5	1	2,733
*Rodgers—Sumter.....	150 00	20 00	120	157	277	116	91	78	70	2	1	358
Riser—Union.....	50 00	25 00	276	1,376	1,652	303	239	239	236	1	---	1,018
Howell—York.....	50 00	20 00	331	1,564	1,895	333	274	229	163	21	17	1,037
Total.....	\$1,975 00	\$ 768 53	11,311	26,127	37,438	11,066	8,691	7,527	6,637	904	448	35,273

*Indicates second round of dispensary work.

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	8,099
Number specimens showing hookworm infection.....	1,213
Number specimens showing Ascaris.....	81
Number specimens showing Hymenolepis.....	216
Number specimens showing Trichocephalus.....	1
Number specimens showing Oxyuris.....	3
Number specimens showing Tenia Saginata.....	
Number specimens showing infection.....	1,514
Number specimens negative.....	6,585

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 1,303)	
Number of physicians personally visited.....	381
Number of lectures to physicians.....	8
Number of circulars or bulletins to physicians.....	12,339
Number of letters or post cards to physicians.....	150
Number physicians reporting treating Uncinariasis.....	
Number of persons reported treated by physicians.....	

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	168
Estimated number attending.....	17,350
2. Through the Schools:	
Number teachers visited.....	22
Number letters to teachers.....	1,470
Number pamphlets and bulletins to teachers.....	45,520
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	20,600
Number sanitary-privy leaflets distributed.....	9,200
Number other literature distributed.....	52,300
4. Through the Press:	
Number papers personally visited.....	66
Number letters to editors.....	31
Number articles furnished for publication.....	161

TENNESSEE.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Anderson.....	Dr. Townsend...	439	188	42.8
Blount.....	Dr. Lee.....	1,227	806	65.6
Bradley.....	Dr. Lee.....	764	217	28.4
Campbell.....	Dr. Townsend...	1,041	555	53.3
Cocke.....	Dr. Robinson...	1,401	800	57.1
Greene.....	Dr. Yancey.....	200	78	39.0
Hickman.....	Dr. Robinson...	200	10	5.0
Montgomery...	Dr. Yancey.....	395	14	3.5
Obion.....	Dr. Robinson...	202	1	.49
Rhea.....	Dr. Lee.....	528	269	50.9
Roane.....	Dr. Lee.....	1,470	737	50.1
Robertson.....	Dr. Yancey.....	223	2	.09
Smith.....	Dr. Robinson...	200	56	28.0
Total.....		8,290	3,733	45.0

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Townsend—Anderson.....	---	---	---	---	90	120	210	4.28
Dr. Lee—Blount.....	---	---	---	---	162	132	294	5.5
Dr. Lee—Bradley.....	---	---	---	5	107	97	209	5.7
Dr. Townsend—Campbell.....	---	---	---	---	111	92	203	5.4
Dr. Robinson—Cocke.....	---	---	---	1	60	139	200	3.1
Dr. Robinson—Dickson.....	---	---	---	---	65	42	107	6.0
Dr. Yancey—Greene.....	---	---	---	7	118	126	251	5.4
Dr. Robinson—Hawkins.....	---	---	---	---	42	158	200	2.1
Dr. Robinson—Hickman.....	---	---	1	---	30	169	200	1.75
Dr. Yancey—Knox.....	8	---	---	25	31	36	100	17.35
Dr. Robinson—Lewis.....	---	---	---	---	34	326	360	.94
Dr. Robinson—McNairy.....	---	---	---	---	20	280	300	.66
Dr. Yancey—Montgomery.....	---	---	---	6	78	151	235	3.9
Dr. Robinson—Obion.....	---	---	---	---	247	651	898	2.7
Dr. Lee—Rhea.....	---	---	---	1	146	104	251	5.9
Dr. Lee—Roane.....	---	---	---	3	94	103	200	5.0
Dr. Yancey—Robertson.....	---	---	---	3	98	105	206	5.12
Dr. Robinson—Smith.....	---	---	---	---	58	248	306	1.8
Dr. Yancey—Washington.....	---	---	3	32	71	94	200	8.3
Total.....	8	---	4	83	1,662	3,173	4,930	-----

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Townsend-Anderson	\$ 100 00	\$ 57 60	280	765	1,045	280	182	114	---	---	---	576
Lee-Blount	150 00	234 09	1,575	2,100	3,675	1,573	1,354	848	14	---	---	3,789
Lee-Bradley	150 00	115 96	366	1,417	1,783	366	256	61	5	---	---	3,688
Townsend-Campbell	150 00	74 06	749	1,514	2,263	750	486	5	---	---	---	1,941
Robinson-Cooke	200 00	194 45	999	1,491	2,490	999	955	935	32	7	4	2,932
Breeding-Cumberland	---	---	13	---	13	13	---	---	---	---	---	13
Yancey-Greene	150 00	101 45	586	1,130	1,716	498	374	292	1	1	---	1,166
Robinson-Hickman	100 00	86 80	59	983	1,042	59	48	41	4	---	---	152
Lansden and Townsend-Jackson	---	7 90	349	409	758	328	185	40	---	---	---	553
Yancey-Montgomery	21 65	21 65	24	579	603	24	23	23	---	---	---	70
Robinson-Putman	150 00	289	289	668	957	289	246	149	24	3	---	711
Lee-Rhea	150 00	112 74	552	1,256	1,808	555	384	32	---	---	---	971
Lee and Townsend-Roane	150 00	95 63	1,146	1,954	3,100	944	642	54	8	1	---	1,649
Yancey-Robertson	150 00	56 63	6	638	644	6	6	2	---	---	---	14
Robinson-Smith	150 00	94 45	205	1,035	1,240	205	180	117	44	8	1	555
Yancey-Washington	200 00	96 33	16	190	206	16	5	5	---	---	---	26
Total	\$1,821 65	\$1,499 74	7,214	16,129	23,343	6,905	5,326	2,718	132	20	5	15,106

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	725
Number specimens showing hookworm infection.....	73
Number specimens showing Ascaris.....	110
Number specimens showing Hymenolepis.....	18
Number specimens showing Trichocephalus.....	35
Number specimens showing Oxyuris.....	5
Number specimens showing Tenia Saginata.....	4
Number specimens showing infection.....	112
Number specimens negative.....	613

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 3,400)	
Number of physicians personally visited.....	975
Number of lectures to physicians.....	12
Number of circulars or bulletins to physicians.....	1,073
Number of letters or post cards to physicians.....	1,408
Number physicians reporting treating Uncinariasis.....	145
Number of persons reported treated by physicians.....	262

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	100
Estimated number attending.....	10,709
2. Through the Schools:	
Number teachers visited.....	483
Number letters to teachers.....	157
Number pamphlets and bulletins to teachers.....	1,068
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	44,742
Number sanitary-privy leaflets distributed.....	
Number other literature distributed.....	
4. Through the Press:	
Number papers personally visited.....	79
Number letters to editors.....	61
Number articles furnished for publication.....	78

VII. NOTES ON WORK OF THE YEAR.

1. The growth of interest among the people in sanitation has been remarkable during 1913. Counties, in many instances, have been slow to appropriate \$150.00 to \$200.00 for county campaigns. On the last meeting day four counties appropriated \$250.00 each.

2. Dr. Lee examined the prisoners working in the State mines at Petros, with the following results:

	Number Examined	Number Infected	Per Cent. Infected.
White.....	100	22	22
Negro.....	191	0	0

The negroes all came from the country districts where infection might be expected. All new prisoners are now examined, and treated if infection is found.

3. As the outcome of three years' agitation a model Vital Statistics law has been enacted and put into operation.

TEXAS.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Harris	Dr. Hoch	1,665	926	55.6
Jefferson	Dr. Ferrell	526	64	12.1
Liberty	Dr. Judkins	600	361	60.1
Polk	Dr. Ferrell	861	487	56.5
San Jacinto	Dr. Brownlee	626	546	87.2
Walker	Dr. Judkins	839	480	57.2
Houston	Dr. Ferrell	706	388	54.9
San Augustine	Dr. Judkins	534	447	83.7
Grimes	Dr. Brownlee	804	388	48.2
Panola	Dr. Judkins	517	195	37.7
Waller	Dr. Brownlee	467	225	48.1
Orange	Dr. Ferrell	407	192	47.1
Smith	Dr. Judkins	525	60	11.4
Brazoria	Dr. Ferrell	305	31	10.1
Robertson	Dr. Brownlee	275	59	21.4
Shelby	Dr. Judkins	1,151	430	37.3
Brazos	Dr. Brownlee	677	33	4.8
Austin	Dr. Ferrell	372	22	5.9
Henderson	Dr. Judkins	950	253	26.6
Navarro	Dr. Brownlee	1,169	169	14.4
Total		13,976	5,756	41.2

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Hoch—Harris	1	2	2	2	241	246	50	
Dr. Ferrell—Jefferson	58	20	195	40	313	23.3		
Dr. Judkins—Liberty	87	5	100	192	11.5			
Dr. Ferrell—Polk	71	221	298	2.38				
Dr. Brownlee—San Jacinto	4	2	32	282	320	2.25		
Dr. Judkins—Walker	44	42	94	100	43	323	33.7	
Dr. Ferrell—Houston	98	188	286	3.42				
Dr. Judkins—San Augustine	2	2	237	255	494	4.8		
Dr. Brownlee—Grimes	2	2	141	420	657	6.02		
Dr. Judkins—Panola	224	109	61	4	398	36.5		
Dr. Brownlee—Waller	1	42	423	466	1.0			
Dr. Ferrell—Orange	26	45	144	215	5.1			
Dr. Judkins—Smith	92	59	135	286	54.2			
Dr. Ferrell—Brazoria	112	112	224	5.0				
Dr. Brownlee—Robertson	8	474	323	805	6.13			
Dr. Judkins—Shelby	16	107	150	40	313	15.8		
Dr. Brownlee—Brazos	14	20	178	345	557	5.9		
Dr. Ferrell—Austin	74	160	18	252	13.6			
Dr. Judkins—Henderson	118	270	40	428	13.1			
Dr. Brownlee—Navarro	170	60	358	270	428	20.7		
Total	136	291	324	934	2,731	3,509	7,925	

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Hoch-Harris.....	\$ 300 00	\$ 262 60	1,569	2,631	4,200	1,498	64	4	-----	-----	-----	1,566
Ferrell-Jefferson.....	300 00	292 50	85	1,098	1,183	85	41	2	-----	-----	-----	128
Judkins-Liberty.....	300 00	300 00	601	931	1,532	586	178	19	-----	-----	-----	783
Ferrell-Polk.....	300 00	263 00	699	1,250	1,949	699	298	57	-----	-----	-----	1,054
Brownlee-San Jacinto.....	300 00	294 10	1,050	460	1,510	1,050	54	9	-----	-----	-----	1,113
Judkins-Walker.....	300 00	298 80	714	704	1,518	710	154	24	4	-----	-----	892
Ferrell-Houston.....	300 00	284 65	586	1,014	1,600	586	179	36	-----	-----	-----	801
Judkins-San Augustine.....	300 00	248 00	715	508	1,223	711	177	30	2	-----	-----	920
Brownlee-Grimes.....	300 00	296 80	688	1,379	2,067	688	18	2	-----	-----	-----	708
Judkins-Panola.....	300 00	296 00	306	1,126	1,432	306	169	49	9	-----	-----	533
Brownlee-Waller.....	300 00	292 50	332	830	1,163	332	12	6	-----	-----	-----	350
Ferrell-Orange.....	300 00	262 50	298	679	977	298	63	15	-----	-----	-----	376
Judkins-Smith.....	300 00	274 15	79	1,124	1,203	78	73	41	5	-----	-----	197
Ferrell-Brazoria.....	300 00	278 80	37	853	890	37	17	1	-----	-----	-----	55
Brownlee-Robinson.....	300 00	233 00	94	615	709	94	10	2	-----	-----	-----	106
Judkins-Shelby.....	300 00	235 95	621	1,221	1,842	611	228	55	7	-----	-----	901
Brownlee-Brazos.....	300 00	249 75	68	1,292	1,380	60	6	3	-----	-----	-----	69
Ferrell-Austin.....	300 00	198 85	31	949	980	31	7	1	-----	-----	-----	39
Judkins-Henderson.....	300 00	295 15	354	1,150	1,513	354	48	8	1	-----	-----	411
Brownlee-Navarro.....	300 00	295 15	219	1,383	1,602	218	11	-----	-----	-----	-----	229
Total.....	\$6,000 00	\$5,284 65	9,416	21,296	30,453	9,032	1,807	364	28	-----	-----	11,231

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	1,084
Number specimens showing hookworm infection.....	70
Number specimens showing Ascaris.....	1
Number specimens showing Hymenolepis.....	8
Number specimens showing Trichocephalus.....	4
Number specimens showing Oxyuris.....	83
Number specimens showing Tenia Saginata.....	1,001
Number specimens showing infection.....	
Number specimens negative.....	

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 5,126)	
Number of physicians personally visited.....	607
Number of lectures to physicians.....	8
Number of circulars or bulletins to physicians.....	1,108
Number of letters or post cards to physicians.....	11,661
Number physicians reporting treating Uncinariasis.....	844
Number of persons reported treated by physicians.....	1,685

VI. EDUCATING THE PEOPLE IN SANITATION.
(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	566
Estimated number attending.....	46,596
2. Through the Schools:	
Number teachers visited.....	300
Number letters to teachers.....	1,491
Number pamphlets and bulletins to teachers.....	1,491
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	55,512
Number sanitary-privy leaflets distributed.....	24,567
Number other literature distributed.....	48,603
4. Through the Press:	
Number papers personally visited.....	97
Number letters to editors.....	69
Number articles furnished for publication.....	191
5. Miscellaneous:	
Number county officials visited.....	578
Number letters to county officials.....	2,280
Number pamphlets and bulletins sent to county officials.....	6,840

VII. NOTES ON WORK OF THE YEAR.

1. The campaign in Texas covers an eighteen-months' period. The people are recognizing that sanitation is necessary for good health.
2. \$10,500 has been appropriated for campaigns in thirty-five counties.
3. Infection has been demonstrated in seventy-five counties; the eastern one-third of the State. The physicians in the remaining two-thirds of Texas have not had the opportunity to treat hookworm disease. Of the 2,200 physicians in the infection area, 1,002 have reported treating 4,915 cases of hookworm disease.
4. The rural school teachers and trustees have been our greatest help in reaching the rural homes.

VIRGINIA.

I. INFECTION SURVEY.

Infection survey, based on an examination of at least 200 children between the ages of 6 and 18 years, taken at random from the country.

County	Surveyed by	Number Examined	Number Infected	Per cent. of Infection
Albemarle.....	Dr. Brumfield...	330	83	25.1
Amelia.....	Dr. Miller.....	373	52	13.9
Appomattox...	Dr. Miller.....	1,303	393	30.1
Augusta.....	Dr. Miller.....	451	82	18.2
Buckingham...	Dr. Kolmer.....	918	264	28.7
Charlotte.....	Dr. Brumfield...	404	95	23.5
Dickenson.....	Dr. Brumfield...	840	391	46.5
Fluvanna.....	Dr. Miller.....	485	16	3.3
Hanover.....	Dr. Lickle.....	201	87	43.2
Lee.....	Dr. Brumfield...	1,969	759	38.5
Nelson.....	Dr. Brumfield...	218	45	20.6
Orange.....	Dr. Brumfield...	1,029	210	20.4
Prince Edward.	Dr. Miller.....	1,250	316	25.2
Rockingham...	Dr. Miller.....	951	97	10.2
Rockbridge...	Dr. Miller.....	989	188	19.0
Spottsylvania..	Dr. Lickle.....	589	59	10.0
Surrey.....	Dr. Kolmer.....	490	89	18.1
Sussex.....	Dr. Kolmer.....	863	245	28.4
Tazewell.....	Dr. Brumfield...	340	5	1.4
Washington....	Dr. Brumfield...	220	21	9.5
Wise.....	Dr. Brumfield...	815	396	48.6
Total.....		15,028	3,893	25.9

II. SANITARY SURVEY.

Sanitary survey, based on an inspection of privy conditions at at least 100 country homes.

Doctor and County	TYPE OF PRIVY							Sanitary Index
	A	B	C	D	E	F	Total	
Dr. Fisher—Buckingham.....	---	---	---	4	76	123	203	4.2
Dr. Fisher—Franklin.....	---	1	---	4	122	80	207	6.7
Dr. Fisher—Henry.....	---	---	---	3	86	122	211	4.4
Dr. Fisher—Patrick.....	---	---	---	---	53	152	205	2.6
Dr. Fisher—Roanoke.....	2	---	---	14	167	20	203	10.9
Total.....	2	1	---	25	504	497	1,029	---

III. WORK OF COUNTY DISPENSARIES.

Doctor and County	Amount of County Appropriation	Amount Expended	Number Microscopic Examinations			NUMBER PERSONS AND TIMES TREATED						Total Treatments
			Pos.	Neg.	Total	One	Two	Three	Four	Five	Six	
Wise—Brumfield.....	\$ 100 00	\$ 100 00	923	1,128	2,051	923	916	900	-----	-----	-----	2,739
Dickenson—Brumfield.....	100 00	100 00	302	1,679	1,981	302	302	302	-----	-----	-----	906
Hanover—Miller.....	100 00	100 00	717	1,276	1,993	717	717	717	-----	-----	-----	2,151
Appomattox—Miller.....	100 00	100 00	638	2,666	3,304	638	638	638	-----	-----	-----	1,914
Roanoke—Lickle.....	100 00	100 00	19	391	410	19	19	19	-----	-----	-----	57
Lee—Brumfield.....	100 00	100 00	2,332	6,681	9,013	2,332	2,332	2,332	-----	-----	-----	6,996
Pr. Edward—Miller.....	100 00	100 00	497	2,661	3,158	497	497	497	-----	-----	-----	1,491
Surry—Kolmer.....	100 00	100 00	146	1,257	1,403	146	146	146	-----	-----	-----	438
Tazewell—Brumfield.....	100 00	100 00	12	773	785	12	12	12	-----	-----	-----	36
Sussex—Kolmer.....	100 00	100 00	365	1,684	2,049	365	365	365	-----	-----	-----	1,095
Amelia—Miller.....	100 00	100 00	79	953	1,032	79	79	79	-----	-----	-----	237
Charlotte—Brumfield.....	100 00	100 00	155	721	876	155	155	155	-----	-----	-----	465
Buckingham—Kolmer.....	100 00	100 00	372	1,793	2,165	372	372	372	-----	-----	-----	1,116
Total.....	\$1,300 00	\$1,200 00	6,557	23,663	30,220	6,557	6,550	6,534	-----	-----	-----	19,641

IV. WORK OF LABORATORY.

	Total During 1913
Number specimens examined.....	8,021
Number specimens showing hookworm infection.....	1,338
Number specimens showing Ascaris.....	1,587
Number specimens showing Hymenolepis.....	26
Number specimens showing Trichocephalus.....	229
Number specimens showing Oxyuris.....	15
Number specimens showing Tenia Saginata.....	
Number specimens showing infection.....	3,127
Number specimens negative.....	4,894

V. WORK OF GENERAL PRACTITIONERS OF MEDICINE.

(Number of Physicians in State, 2,357)	
Number of physicians personally visited.....	491
Number of lectures to physicians.....	9
Number of circulars or bulletins to physicians.....	4,600
Number of letters or post cards to physicians.....	6,900
Number physicians reporting treating Uncinariasis.....	363
Number of persons reported treated by physicians.....	1,284

VI. EDUCATING THE PEOPLE IN SANITATION.

(By Field Directors).

1. By Public Lectures:	
Number public lectures delivered.....	620
Estimated number attending.....	52,015
2. Through the Schools:	
Number teachers visited.....	405
Number letters to teachers.....	450
Number pamphlets and bulletins to teachers.....	
3. By Bulletins, Leaflets and Other Literature:	
Number bulletins and leaflets distributed.....	37,000
Number sanitary-privy leaflets distributed.....	30,000
Number other literature distributed.....	
4. Through the Press:	
Number papers personally visited.....	38
Number letters to editors.....	
Number articles furnished for publication.....	110

VII. NOTES ON WORK OF YEAR.

1. During the year 102 privies were built at rural colored schools in the twenty-five counties which now have a colored rural school supervisor.
2. The State Board of Education has served notice on all local boards of school trustees that sanitary privies must be erected during the coming year under penalty of withdrawal of State aid.
3. On Lincoln's birthday 35,000 colored children received instruction in the sanitary catechism prepared by the Department, and including matter on hookworm disease.
4. A personal visit by the State Director to Richmond county, where work was first begun in May, 1910, showed marked improvement in the economic conditions of the inhabitants of the heavily infected Haynesville district. (See map, fig. 19.)
5. During the year, through co-operation with the University of Virginia and the State Health Department, complete medical inspection was made of the school children of Orange county, including examination for animal parasites.
6. During the year 903 treatments were sent to physicians upon request for their patients.

CHAPTER III.

HALF-TONE ILLUSTRATIONS

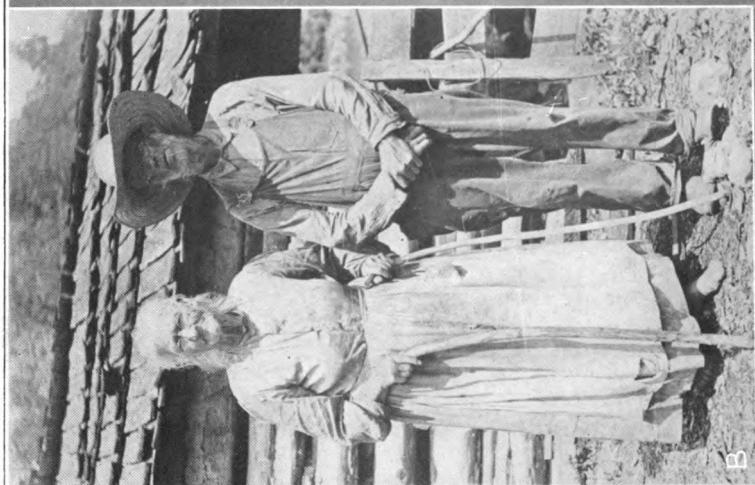
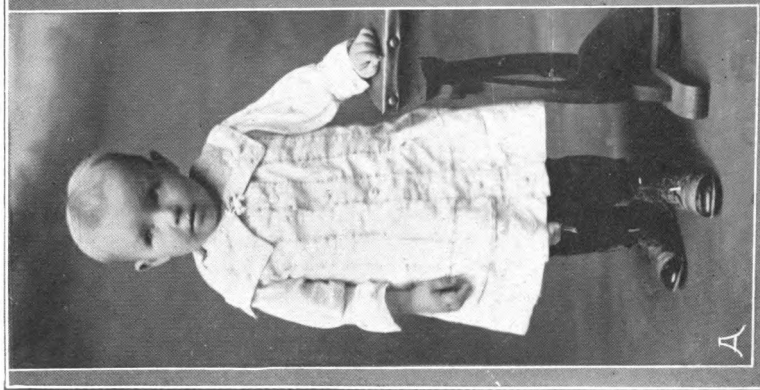


Fig. 1—Showing that hookworm does not ask "Who's who." a. Lou Maddison, Bradley Co., Tenn., age 18 months. Infected; and improved with treatment. One of a family of twelve all infected. b. This couple infected at age of 85 in McCreary Co., Ky. c. Two infected girls who live in house seen in background. Members of one of Miss. best families.

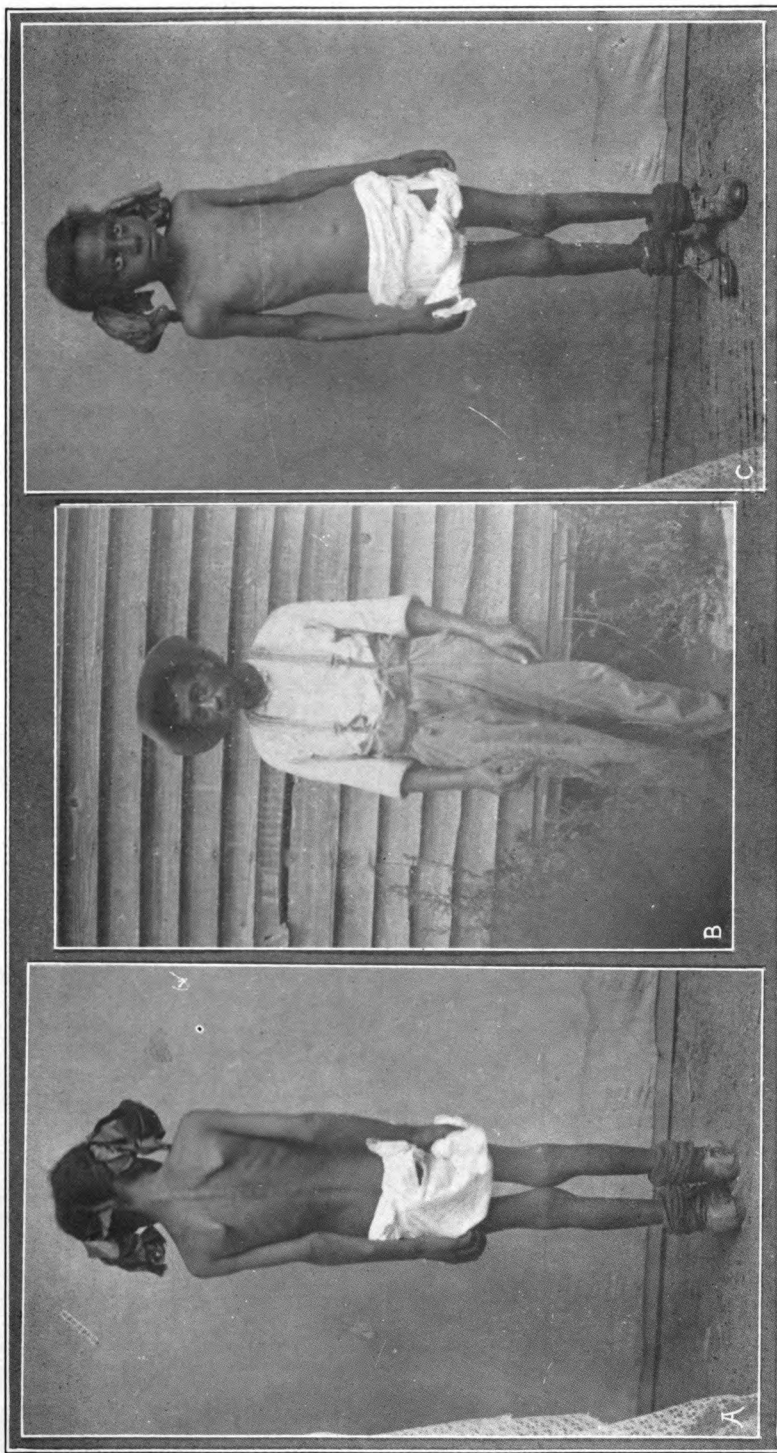


Fig. 2—Hookworm disease is no respecter of race. a. and c. Lena Bell Tolan, of Arkansas, age 11 years, weight 33 pounds, under treatment. b. Negro farmer of Rowan Co., N. C., age 46. Infected. Treated at free dispensary.

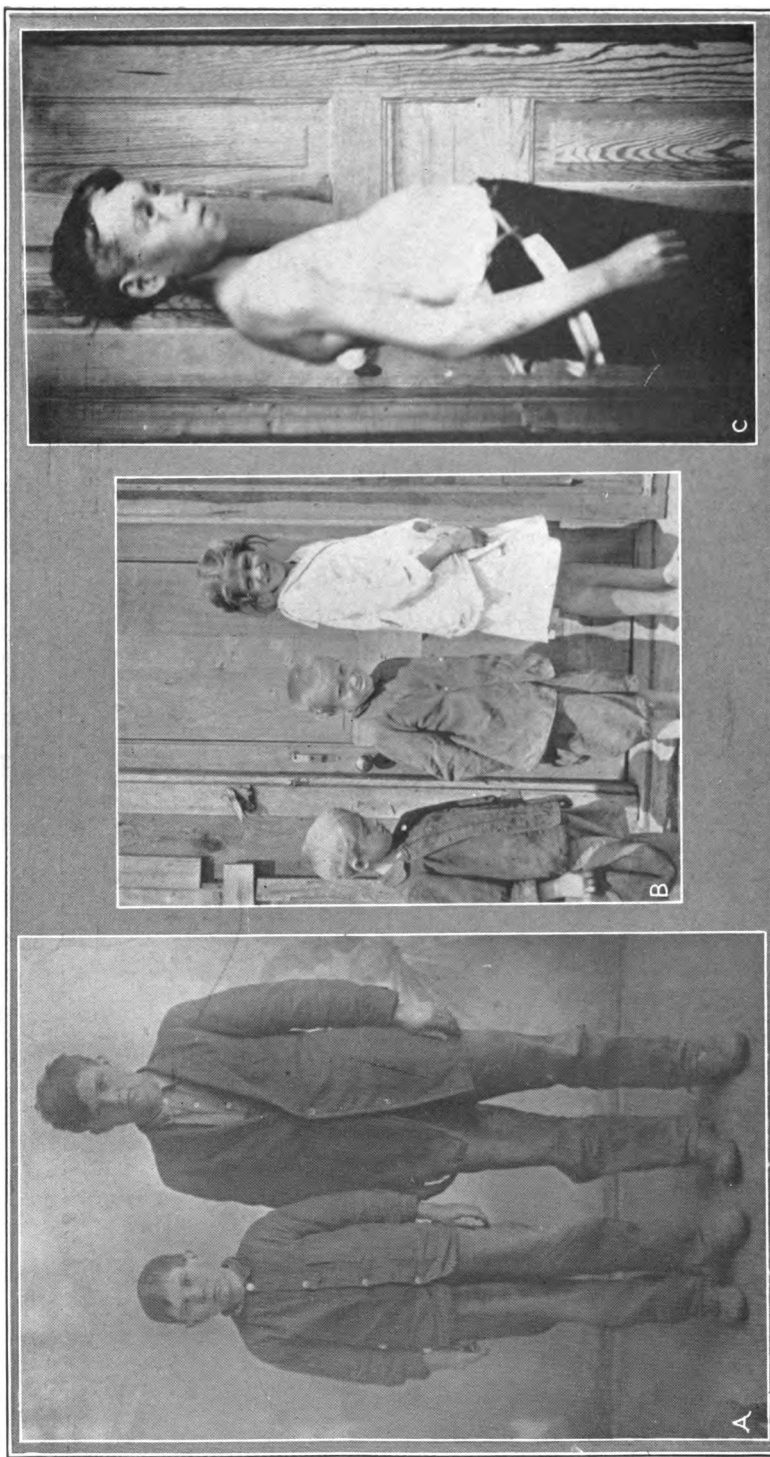


Fig. 3—Showing effects of hookworm disease. a. Small boy is Herrod Moore, of Heber Springs, Ark., called "Chalky" from the extreme pallor of his face. "Chalky" is 18 years old, weighs 82 pounds, uses chewing tobacco, snuff, and profane language. He is uncle of the larger boy, is two months older and 50 pounds lighter than his nephew, who is not infected. b. Three heavily infected children; ages 13, 9, 7 years. The boy was treated for consumption. 20 grs. of thymol brought 234 hookworms, a dwarf tape worm and almost complete recovery. Wise Co., Va. c. Isaac Shores, of Stokes Co., N. C. Severe infestation. Note the "angel wings," shoulder blades and the "pot belly," characteristic symptoms.

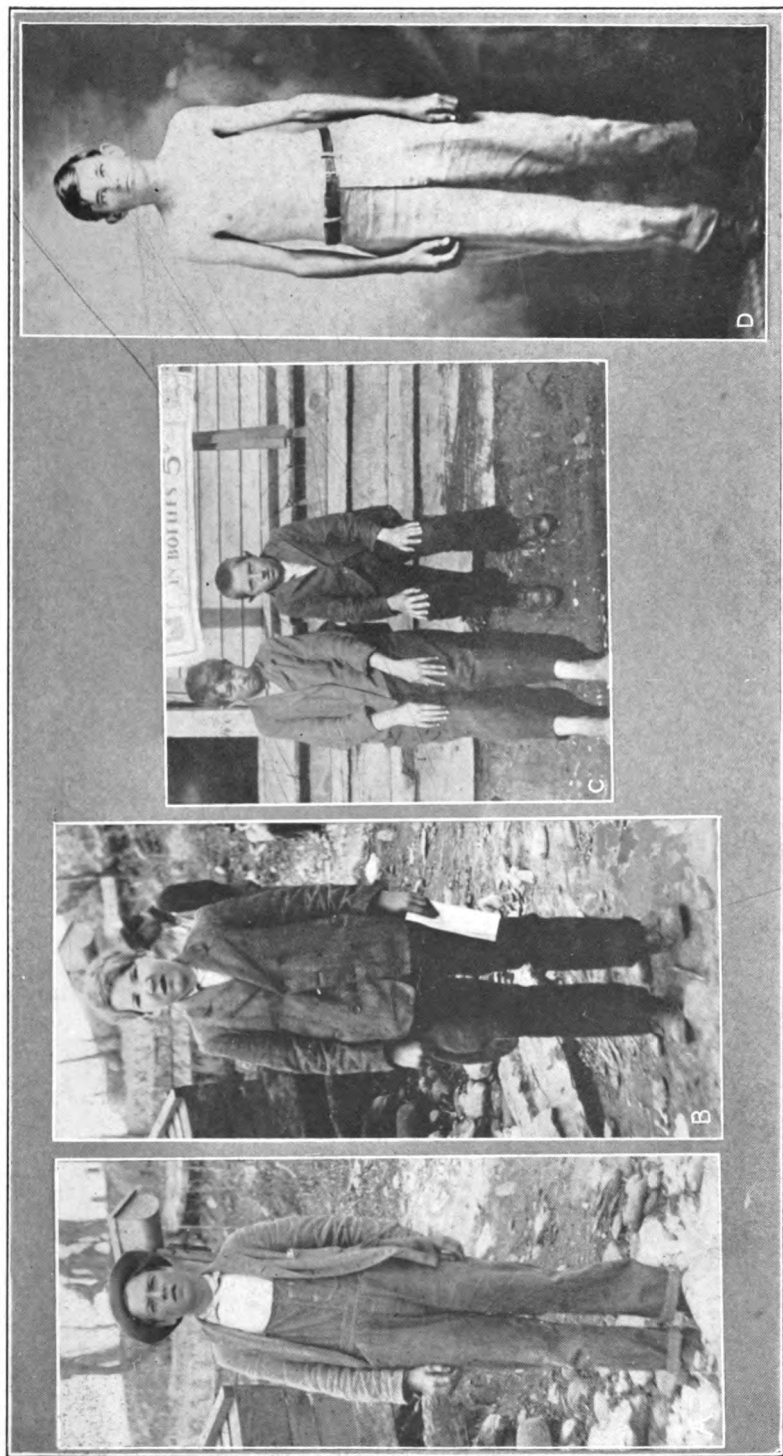


Fig. 4—Showing effects of hookworm disease. a. Appetite often perverted. Joseph Fowler, Cocke Co., Tenn., "has eaten one whole Bible and almost all of a second one." b. Typical infection. Cocke Co., Tenn. c. J. H. Brookfield and Franklin Crow, ages 12 years. The development of body and mind retarded. d. Texas boy with moderate infection.

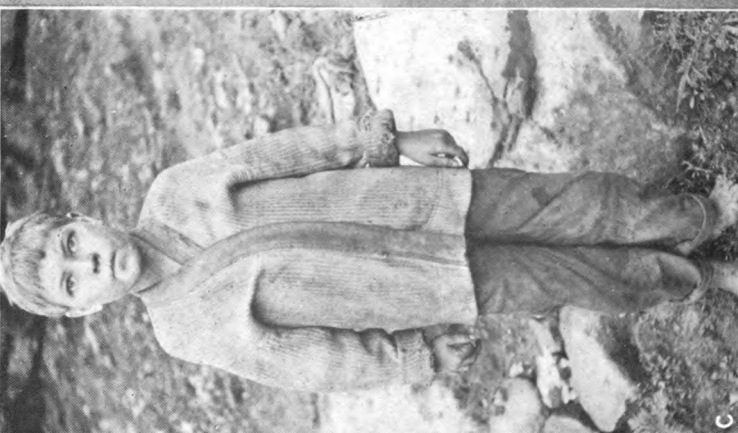
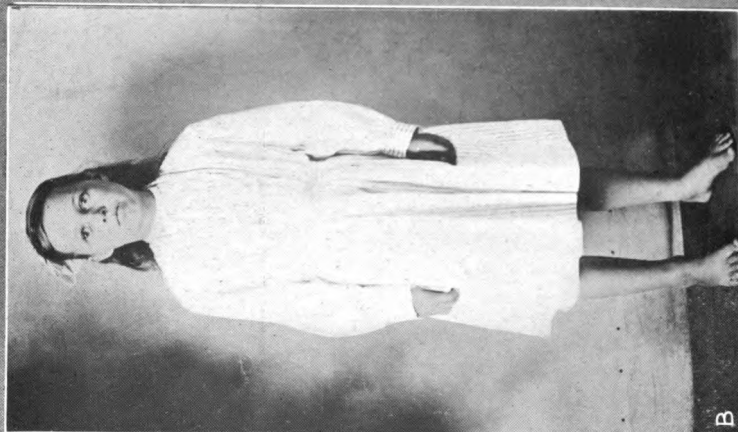


Fig. 5—Showing effects of hookworm disease. a. Two South Carolina boys the same age. The smaller one is severely infected. b. Severe infection, Mecklenburg Co., Va. The anemia is severe. c. Severe infection in a Kentucky boy. Note the fish-like stare in b and c, a characteristic symptom.

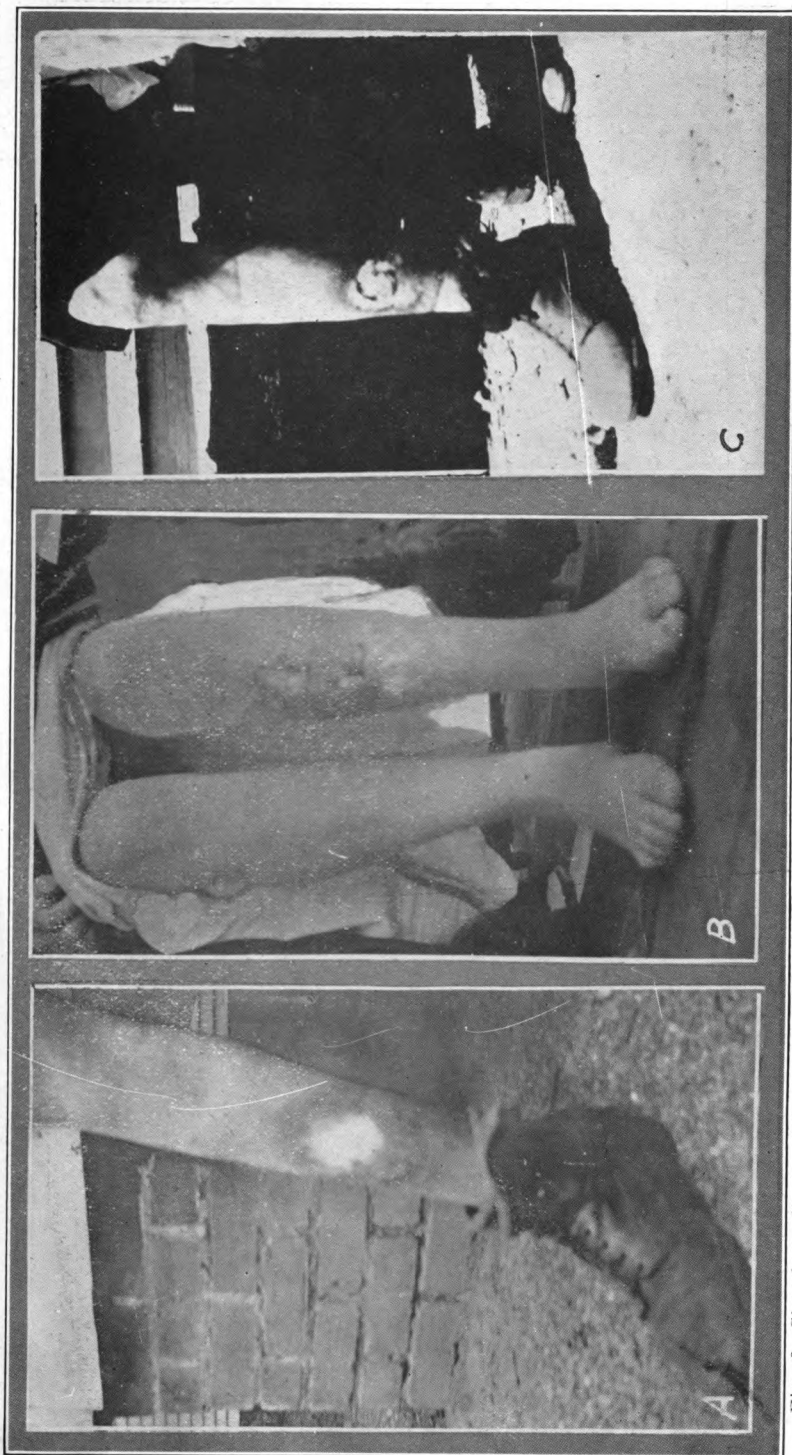


FIG. 6—Showing effects of hookworm disease. Anemic ulcers commonly seen in cases of severe hookworm disease.

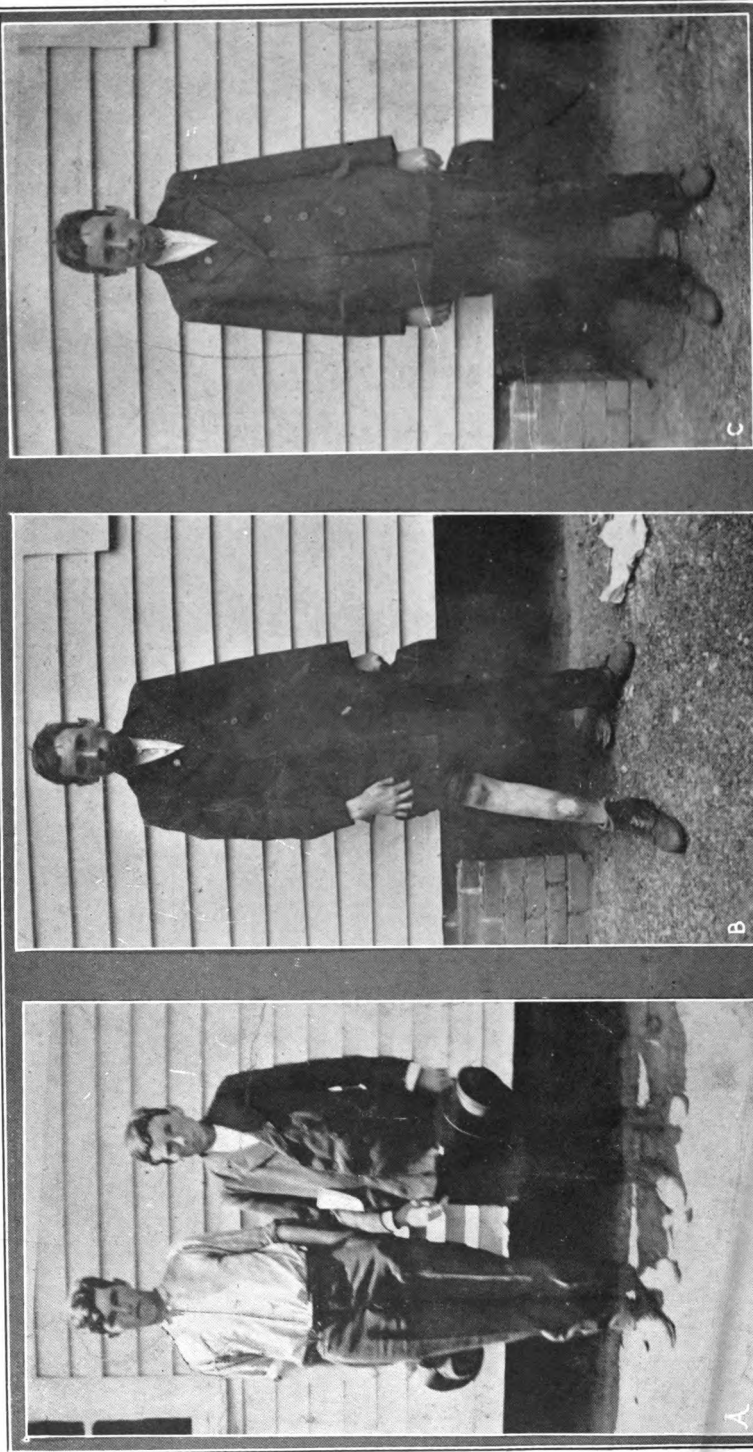


Fig. 7—Showing effects of hookworm disease. J. W. Morris, Cabarrus Co., N. C., age 17, weight 107. a. Standing with boy his own age selected at random. b. Showing anemic ulcer which began healing after treatment with thymol. c. Fourteen days after first picture, weight 111 pounds, a gain of 4 pounds.

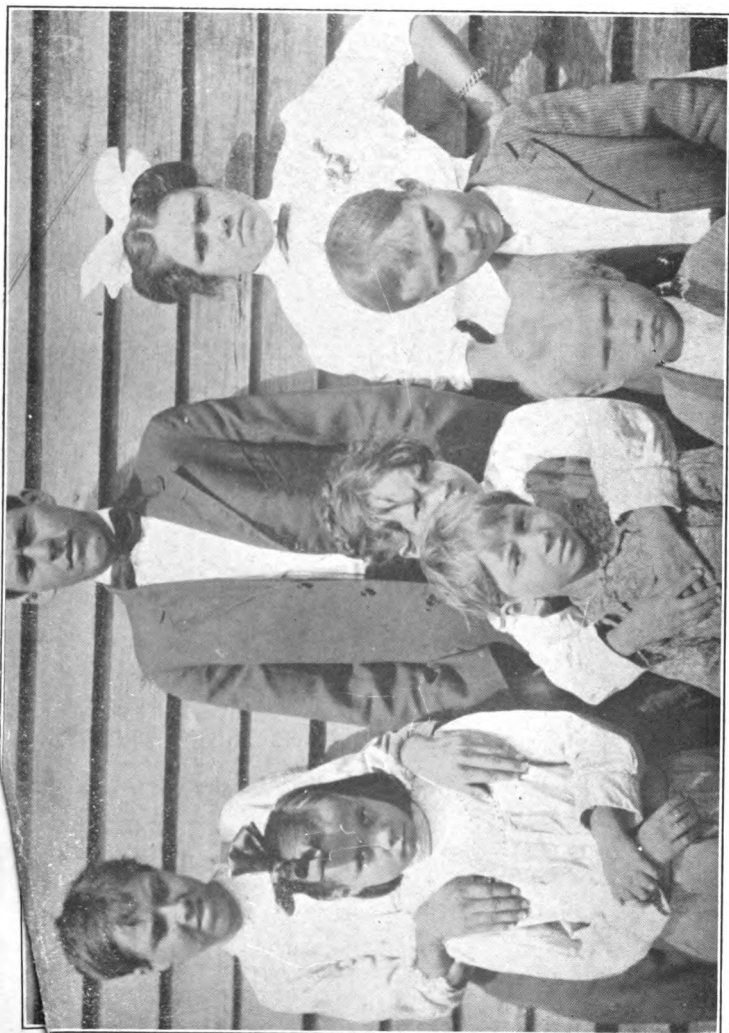


Fig. 8—showing one of the common intercurrent diseases. All infected with hookworm; all have pellagra. The two diseases frequently found together.

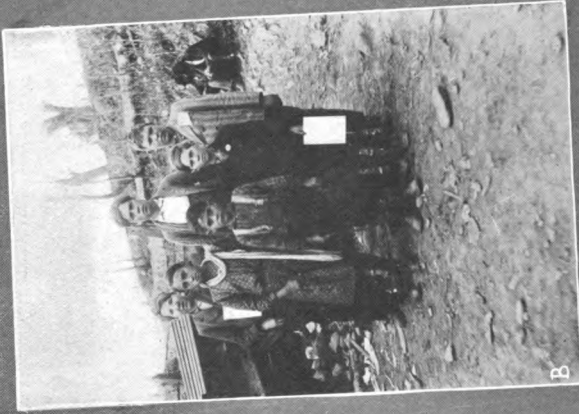
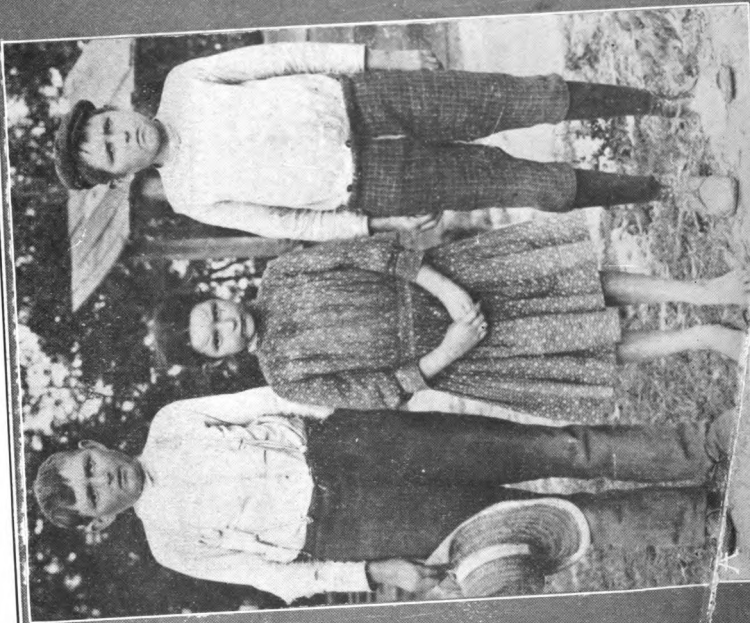


Fig. 9—Showing the effects of hookworm disease on ^a. The three Tarpley children, Toombsboro, Ga., treated at dispensary; three of the family have died of "dropsy."

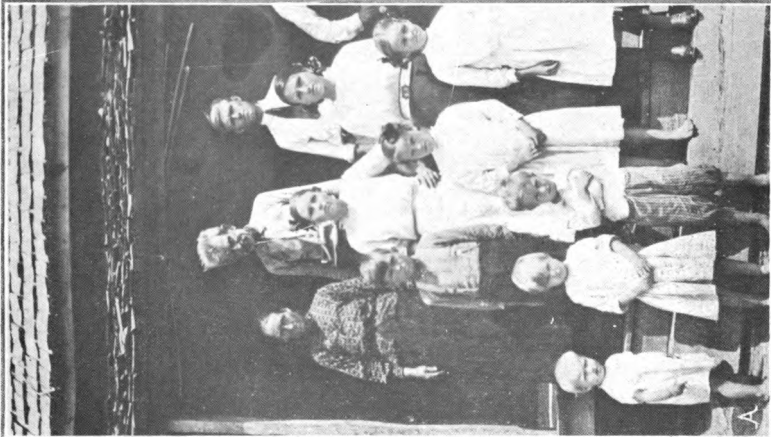


Fig. 10—Showing whole families infected. a. Forrest county, Miss.; b. Owsley county, Ky.

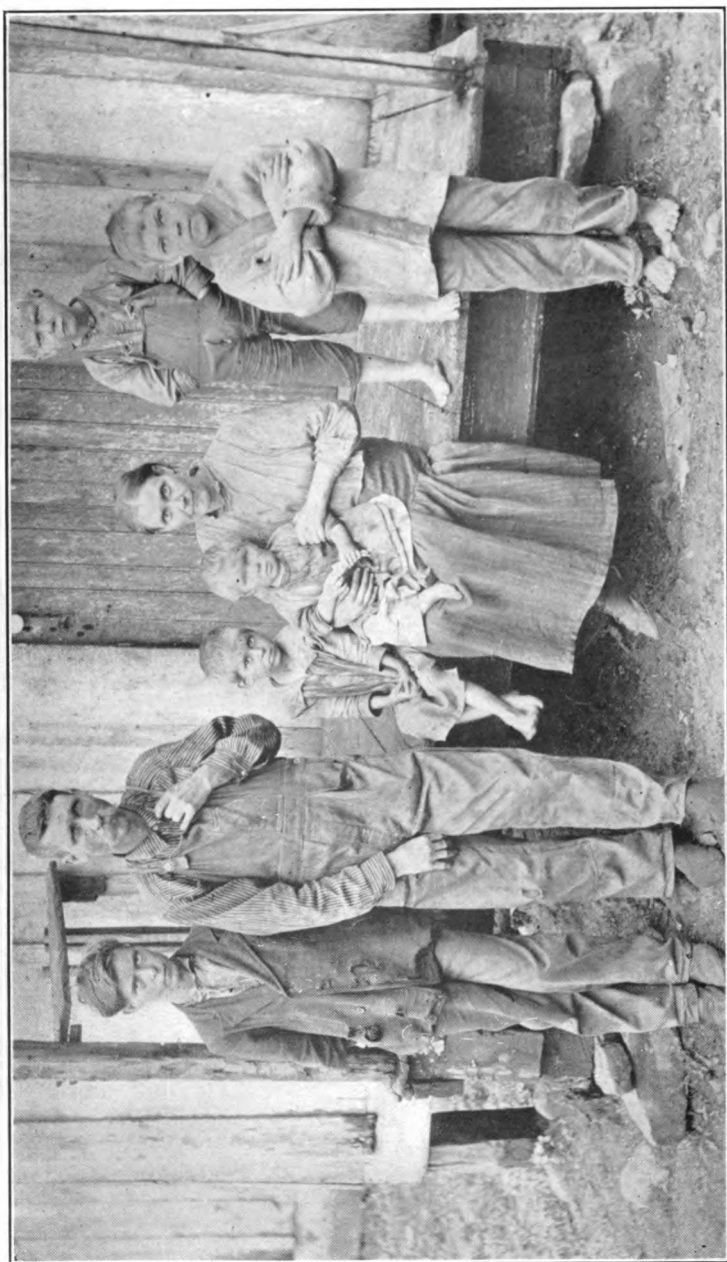


Fig. 11—Bryant family, of Kentucky; heavy infection. Note the "fish stare" of the eyes.



Fig. 12—Showing whole family infected. Girl to left is a daughter-in-law, has light infection. Kentucky.

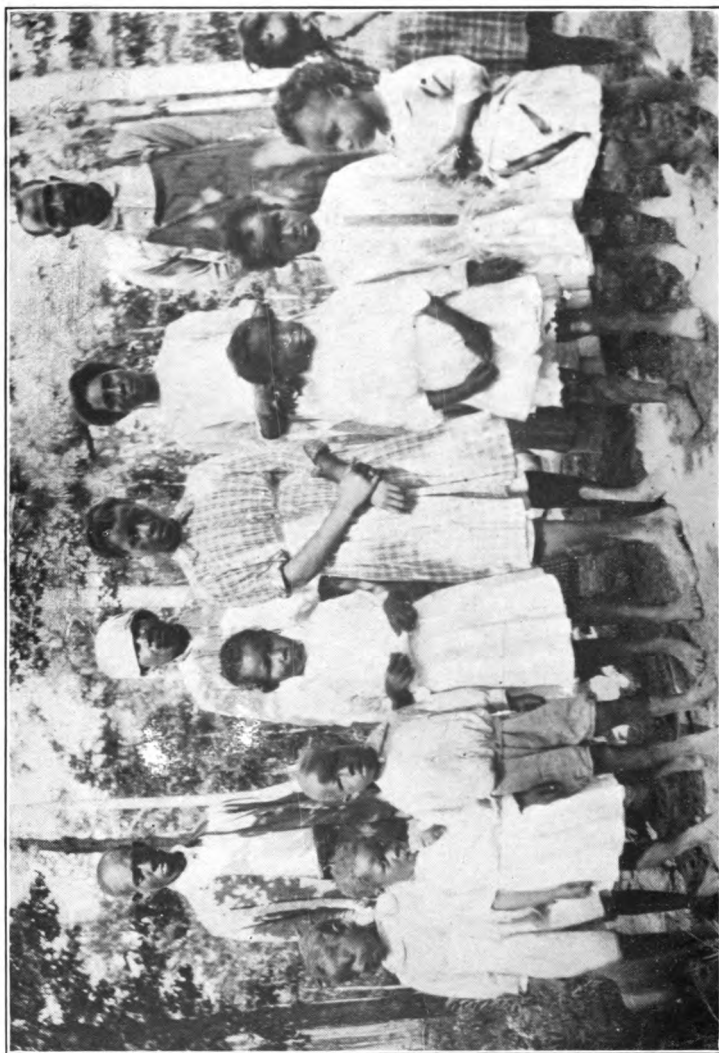


Fig. 13- Showing infected group in Marengo county, Alabama. Number of persons examined in county, 2,043; number infected and treated, 891.



Fig. 14—Showing effect of hookworm disease on the school. Public rural school, Washington county, Alabama. 75 per cent. infection.

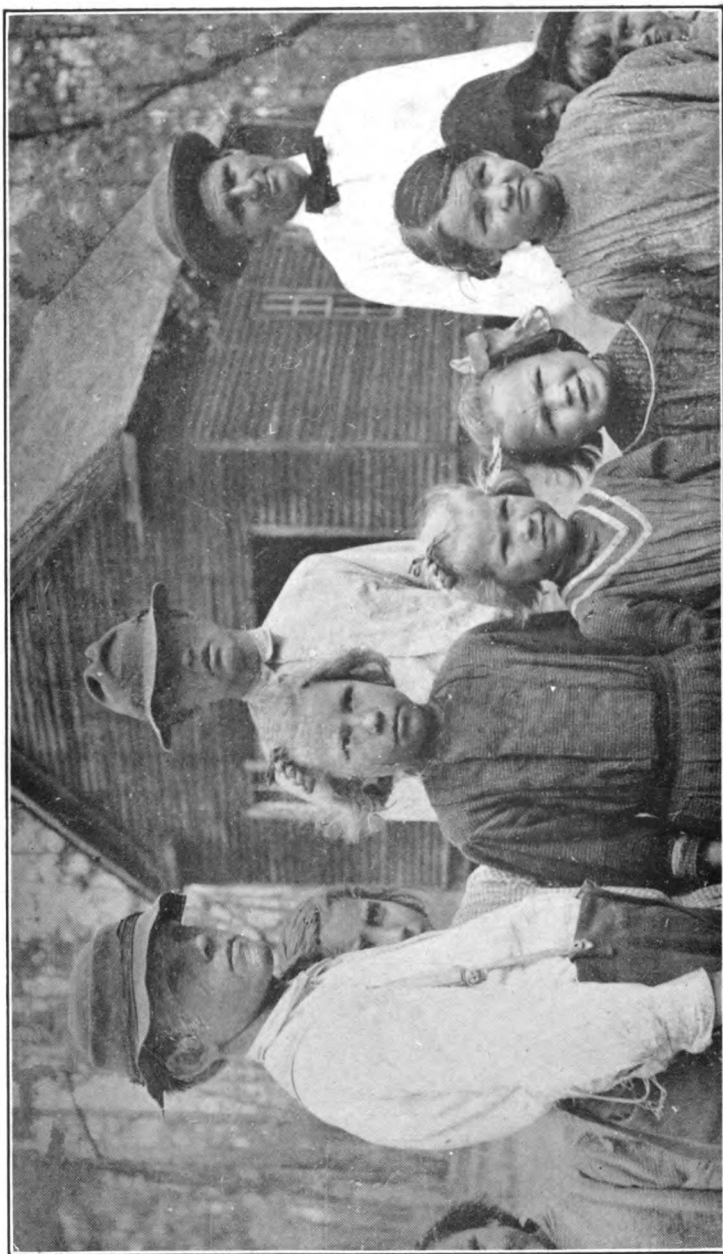


Fig. 15—Enon school, Columbia, Miss. 100 per cent. infection, including the teacher.



Fig. 16—Public schools. a. Frank school, Irwin Co., Ga. 100 per cent. infection. b. Longstrom school, 21 pupils, 100 per cent. infection; no privies.

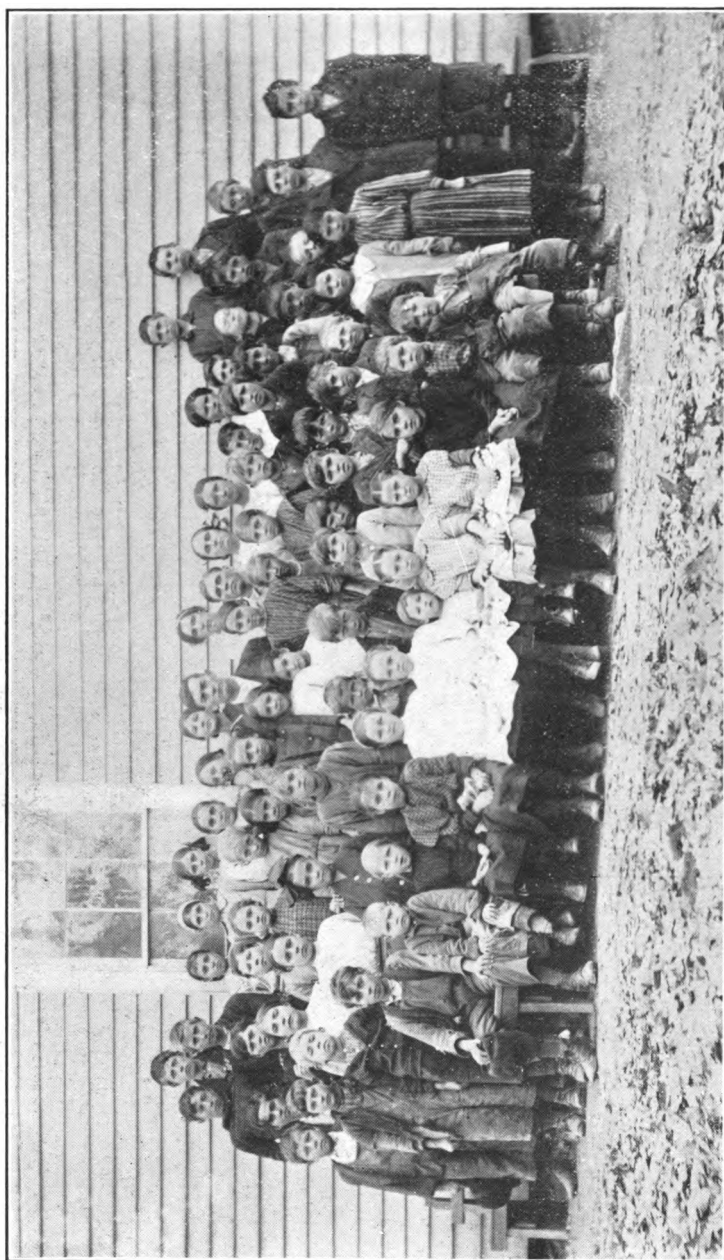


Fig. 17—Public school, Naillon, Cocke Co., Tenn.



Fig. 26.—Results of treatment. Bevers family, Bently, La. All heavily infected. All treated with excellent results.



Fig. 24—Lovett family, Chilton county, Alabama; all infected; all treated; marked improvement.

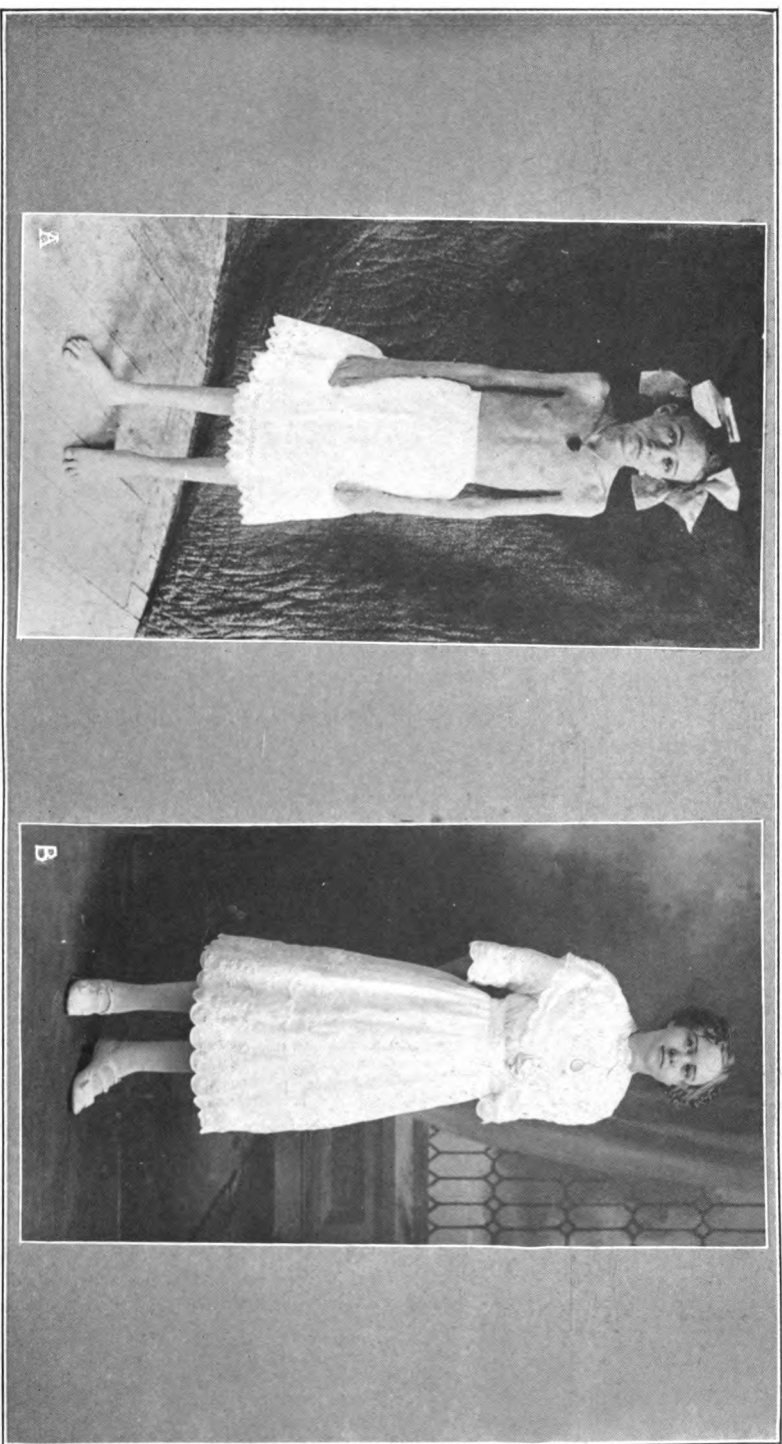
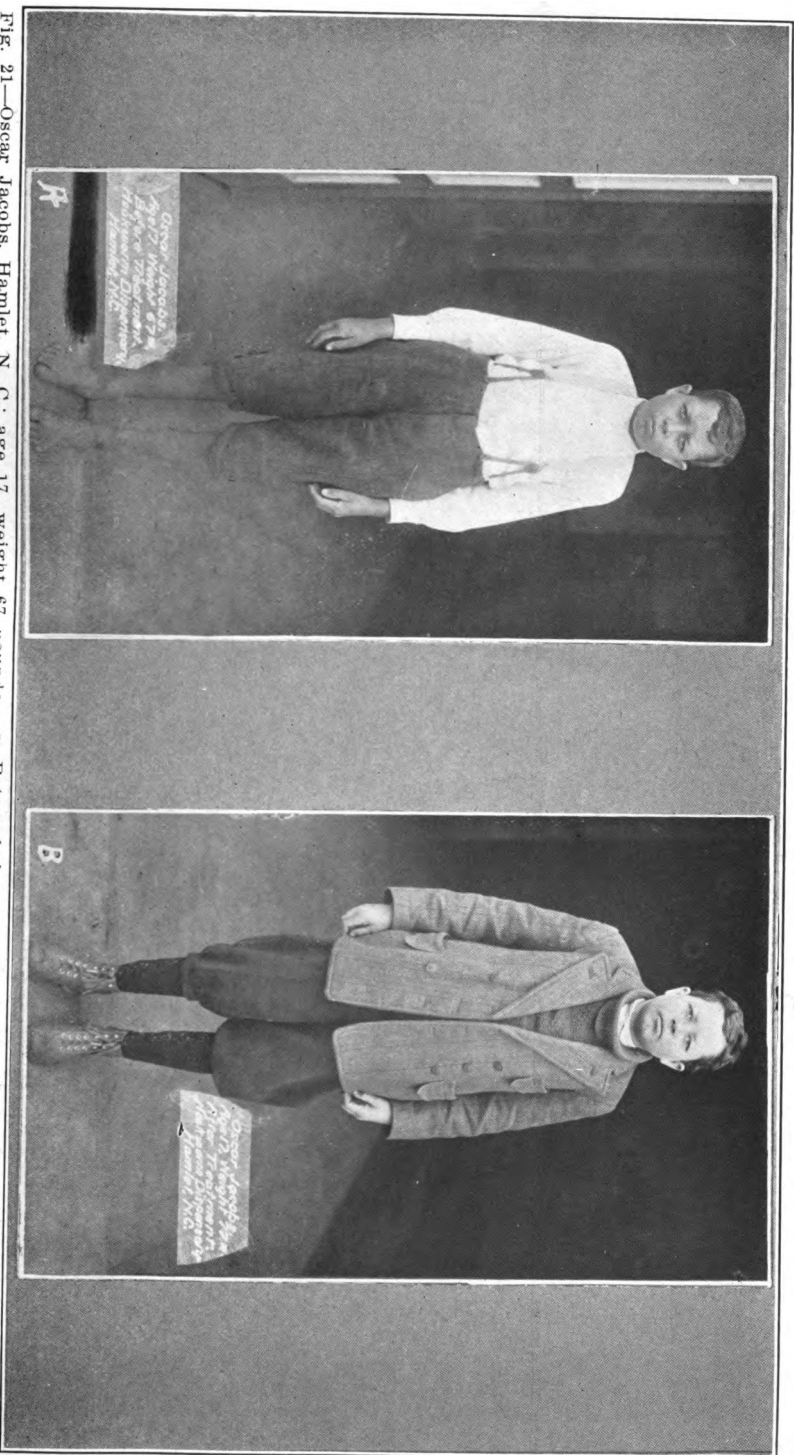


Fig. 23—Della Carder, Grant county, Arkansas; age 16; practically an invalid from childhood; had been treated for malaria and tuberculosis; found heavily infected with hookworms; treated. a. Della Carder as she is to-day.



Fig. 22—Results of treatment. Earnest Sorrell, Wellesley, Mass. Hospital case; dismissed after two treatments. a. Hospital case; dismissed after two treatments. b. Earnest Sorrell 14 months later. Has been doing hard work for twelve months.

FIG. 21—Oscar Jacobs, Hamlet, N. C.; age 17, weight 67 pounds. a. Before being treated; b. Three weeks later; weight 77 pounds: General physical condition much improved.



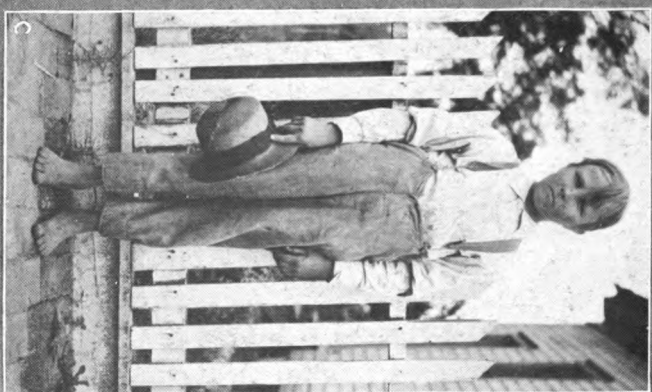
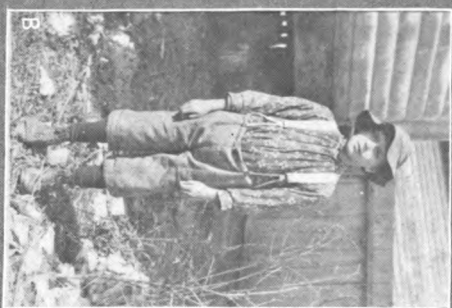
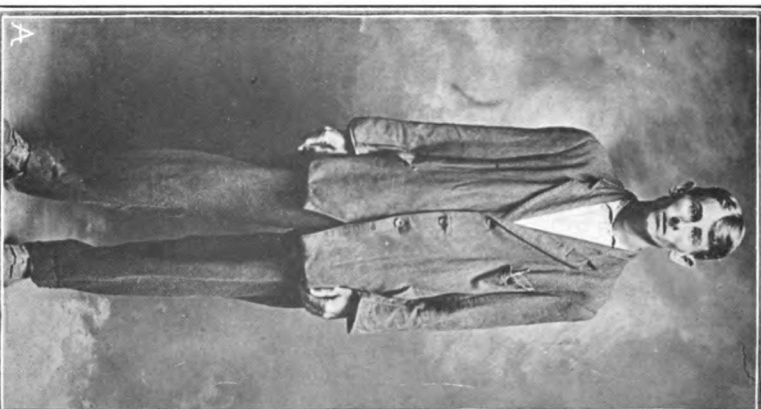


FIG. 20—Results of treatment. a. Willie Livingston, Prentiss county, Miss.; age 19, weight 109 pounds; treated; gained 18 pounds in three weeks. (See pages 43-44.) b. Hennie Landrum, Alabama; stretcher case; cured; now picks 75 pounds of cotton a day. c. Eugene Jenkins, Gillsbure, Miss.; age 21, weight 65 pounds; gained 10 pounds after one treatment.

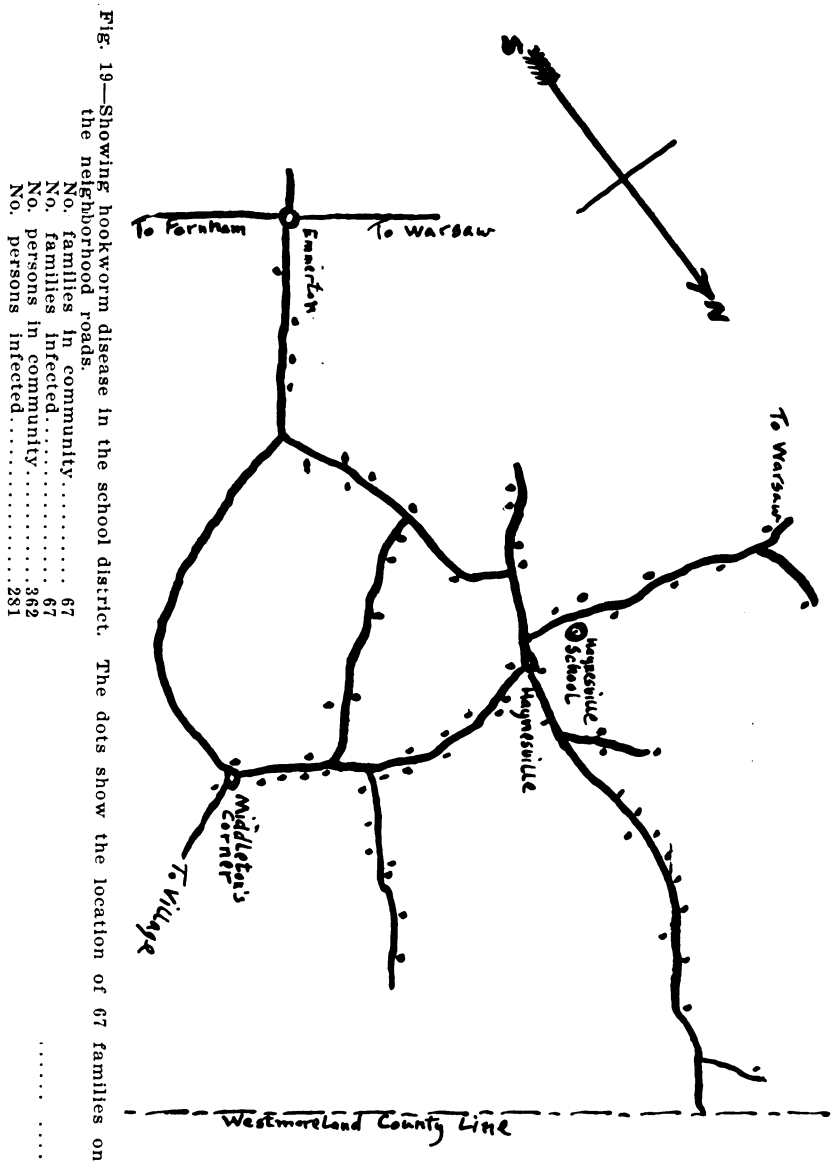




Fig. 18—Those children of Nallion school (see Fig. 17) who were found to have hookworm infection.

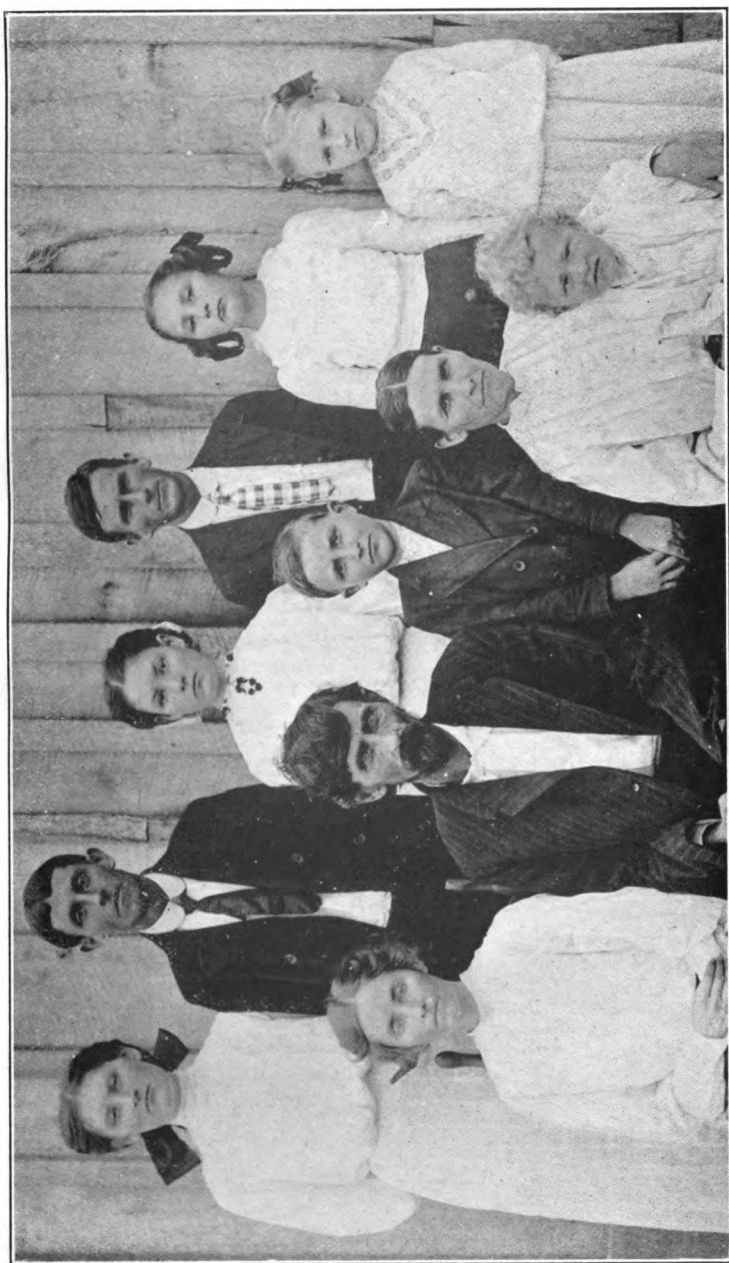


Fig. 26—Tennessee family; all infected; all cured with thymol; had spent \$1,500 for patent medicine.



FIG. 27—Results of treatment. a. Mother and son (Ky.) who have hookworm disease and pellagra. Much improved after hookworm treatment. b. Father and three sons (Grant Parish, La.) have hookworm disease. Father has pellagra also. All greatly improved by three treatments with thymol.

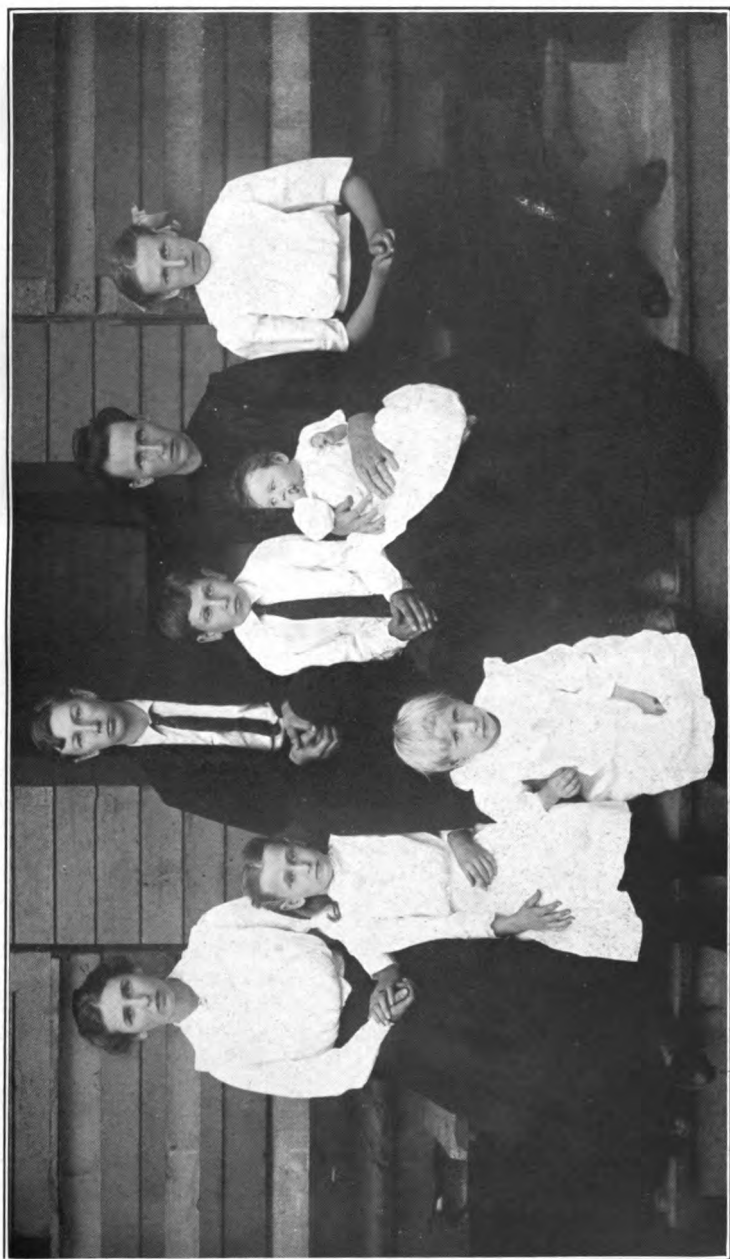


Fig. 28—South Carolina family. All were infected. All cured.



Fig. 29—Mrs. Louisa Pace and family, Mobile county, Alabama; had spent all the money they could get during the last few years for medicine, to no avail; own no home; could not pay rent; treated and cured. The figures indicate ages.

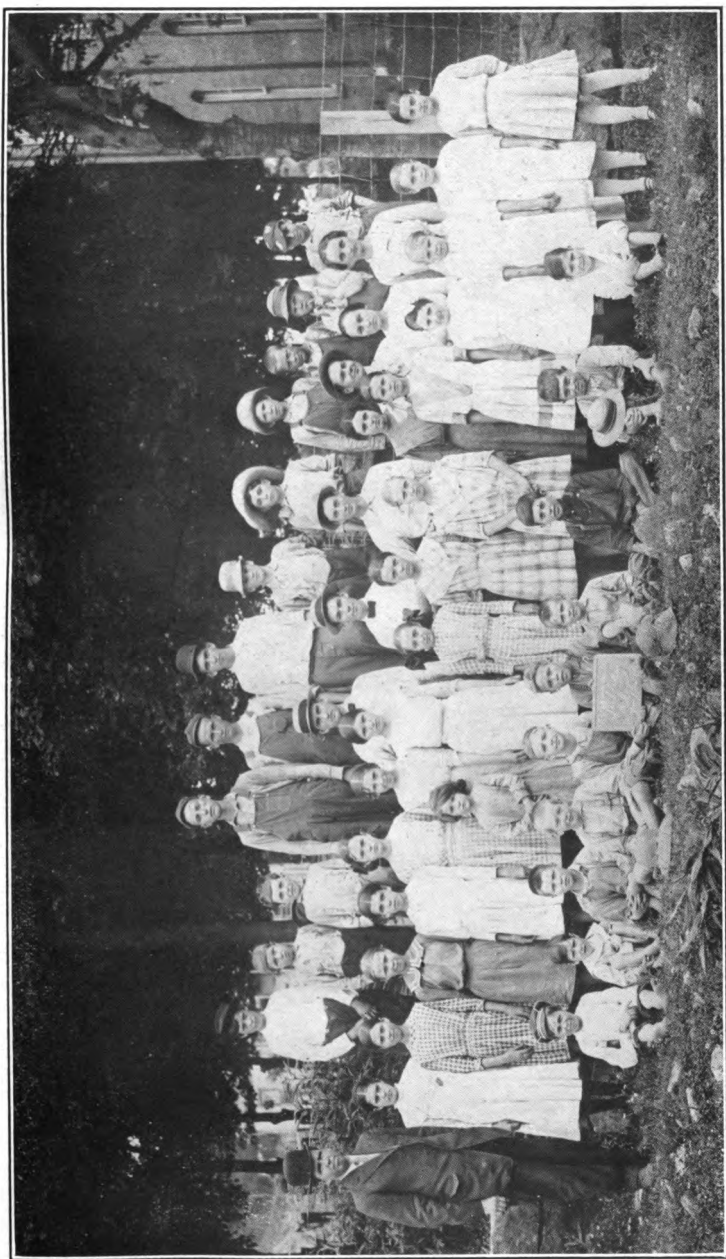


Fig. 30—A Kentucky school. Light infection. Treated and cured.

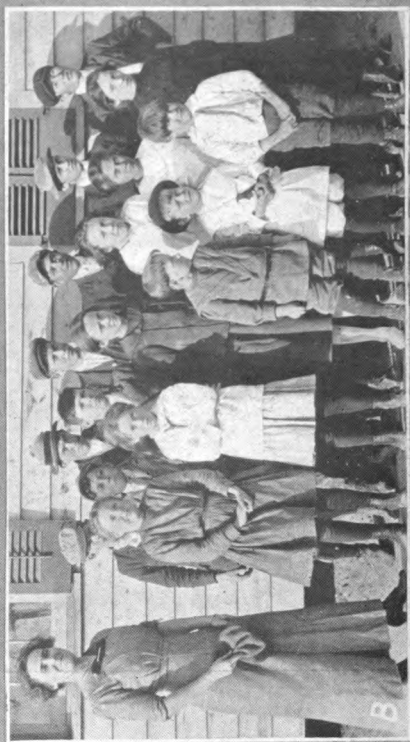
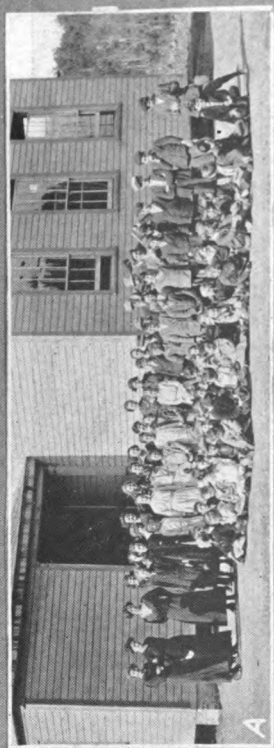


Fig. 31—a. and b. The two public schools on Knott's Island, Currituck Co., N. C. Every teacher and pupil examined. The infected ones treated until cured. Sanitary privies built. c. Dr. Maynard, the whole time community physician. Method of advertising a health meeting. See also Fig. 63.



Fig. 32—Dispensary group, Prentiss county, Miss.; waiting to get results of examination and to hear lecture on sanitation. Number examined in county in six weeks' campaign, 4,246.

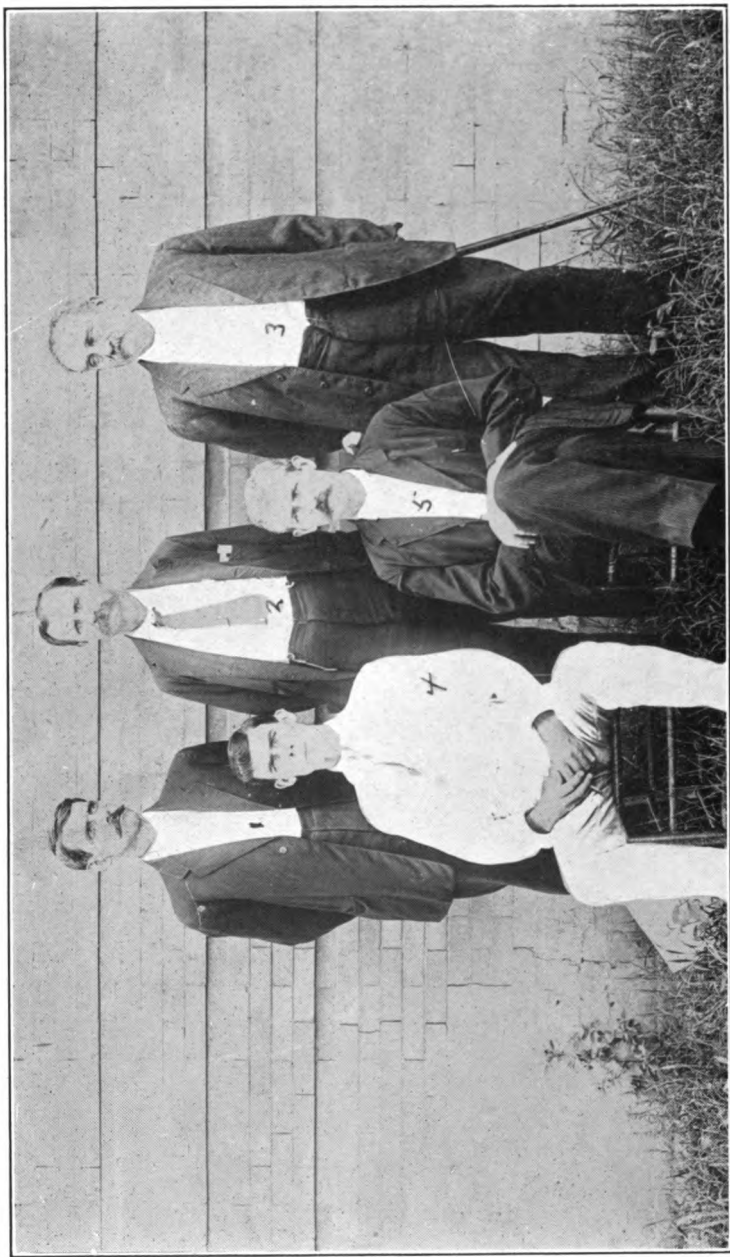


Fig. 35—Board of Supervisors, Prentiss Co., Miss., who appropriated \$249.92 for the county campaign. They also gave their personal time and influence to the work. 1. Ben Moreland. 2. John Green. 3. Babe Ellis. 4. R. B. Moore. 5. J. Miller, chairman. Number of county boards making appropriations, 457.



Fig. 34—Dispensary group, Carter county, Tenn. Number examined during six weeks' campaign 1,138; number treated, 537.

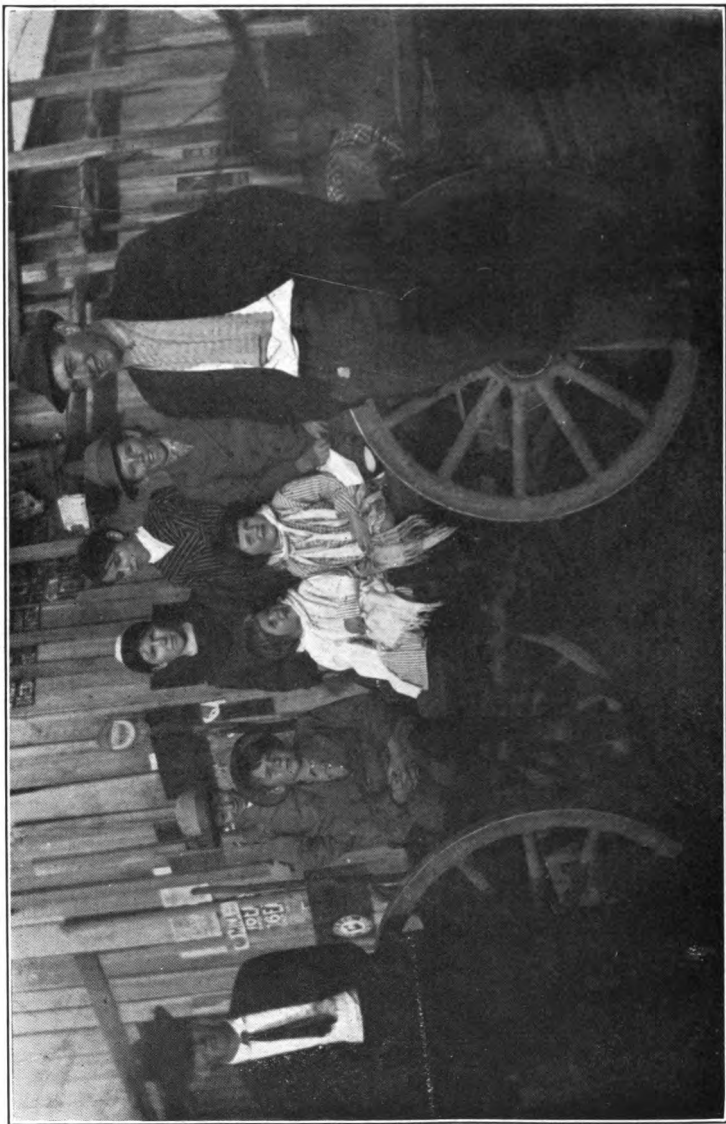


Fig. 35.—Family of seven children drove 18 miles to dispensary. Choctaw Co., Ala. Number of persons treated in county, 1,285.

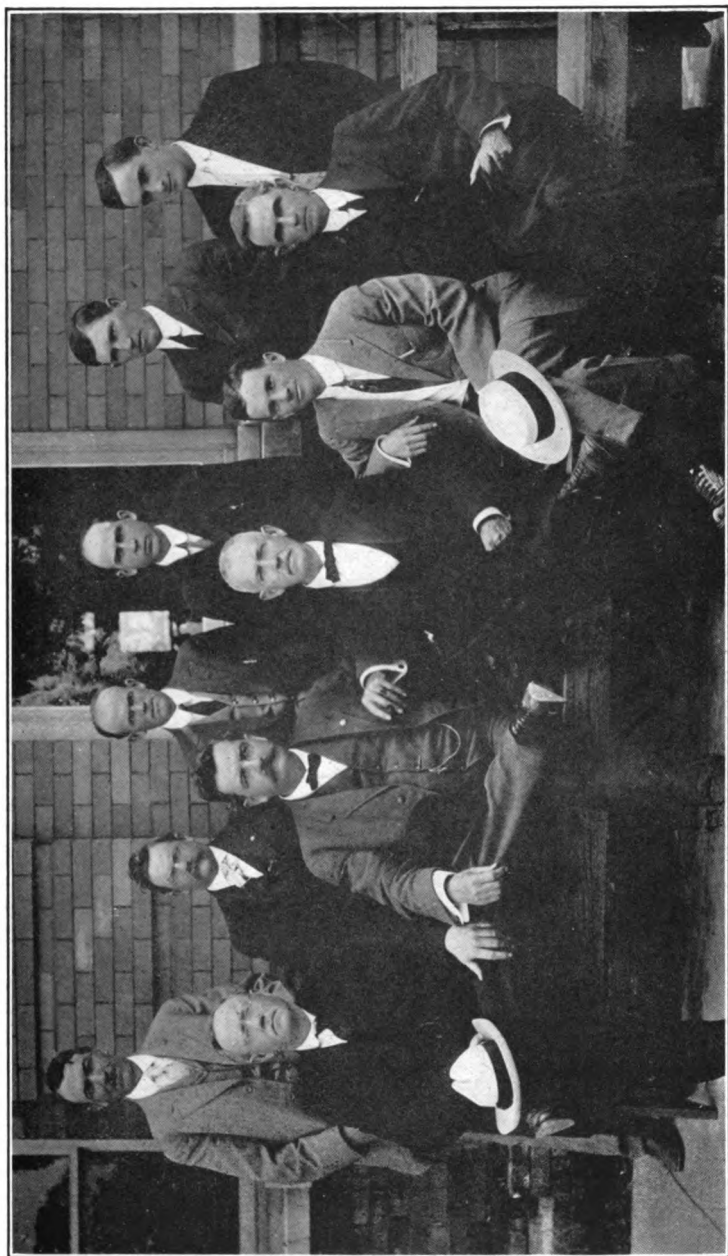


Fig. 36—Prentiss County Medical Society, Miss., and the Editor of the county paper. Every physician in the county aided in the work.



Fig. 37—The teachers of Lauderdale Co., Miss., who were particularly active in lending co-operation in the county dispensary campaign.

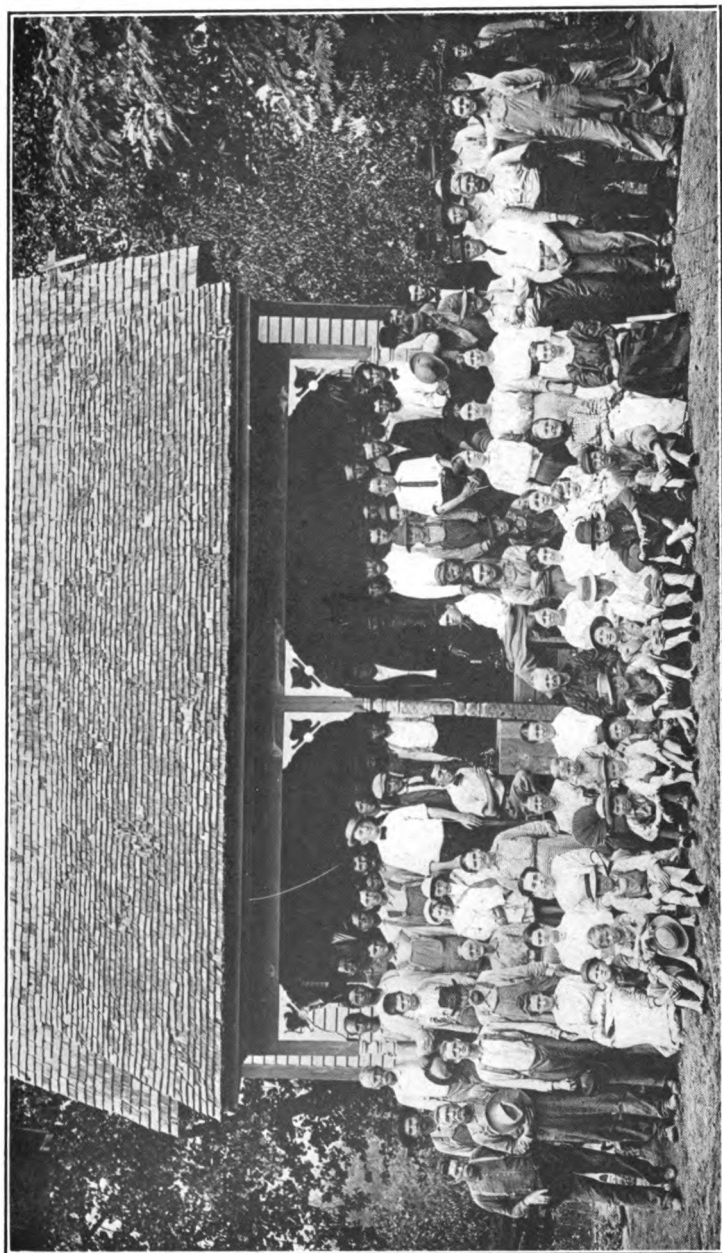


Fig. 38—Dispensary group at Dr. B. B. Smith's office, Prentiss Co., Miss.



Fig. 39—Dispensary group, Clanton, Chilton Co., Ala.; 102 patients treated on this day.

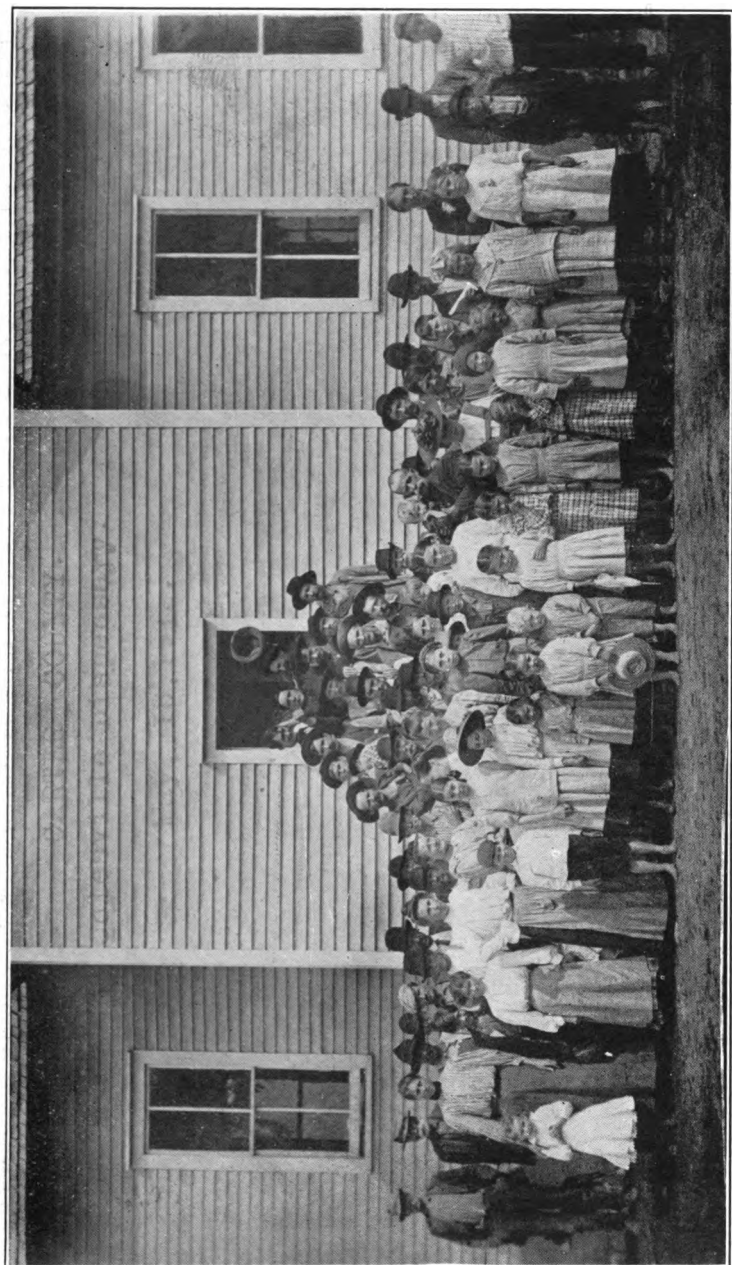


Fig. 40—Opening day, Colesville dispensary, Carter Co., Tenn. Number of persons in picture, 72; number infected, 56.

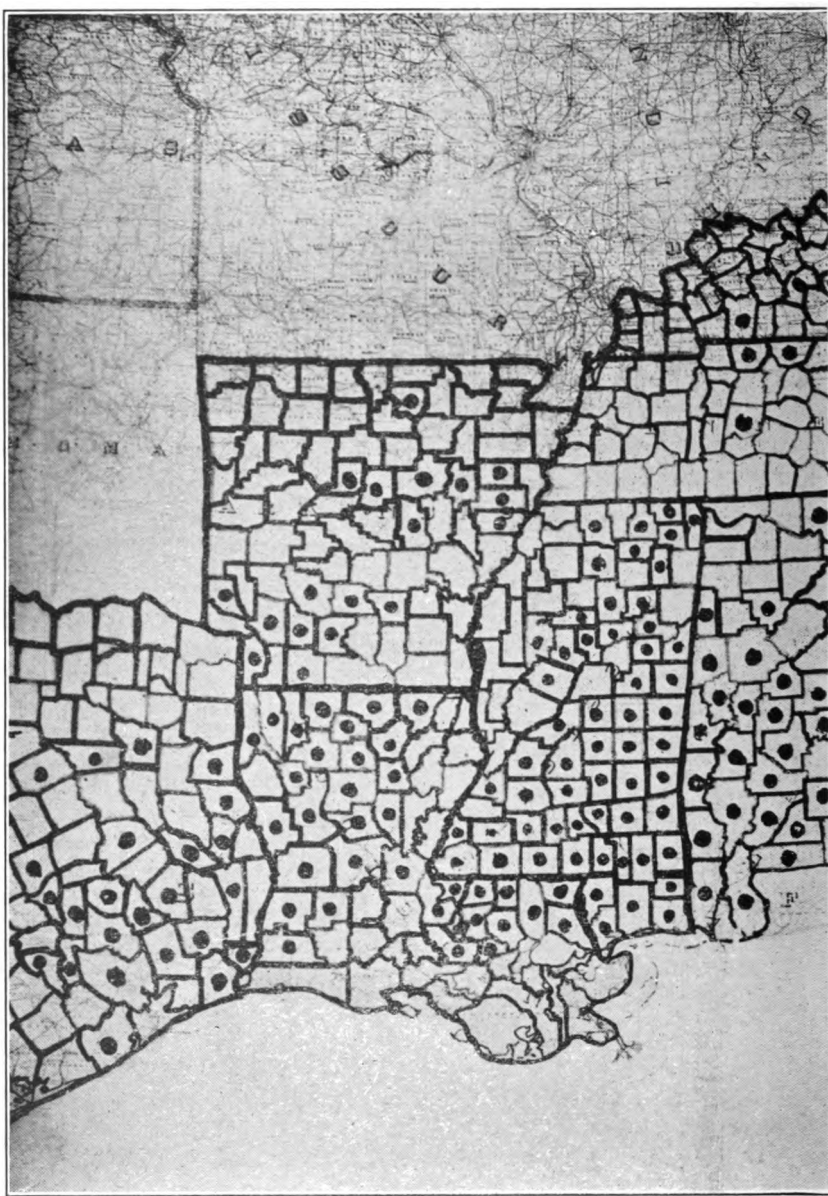


Fig. 41-42—Map shows States where county dispensaries have operated.



Number of counties in the eleven States, 1,142; work completed in 411.

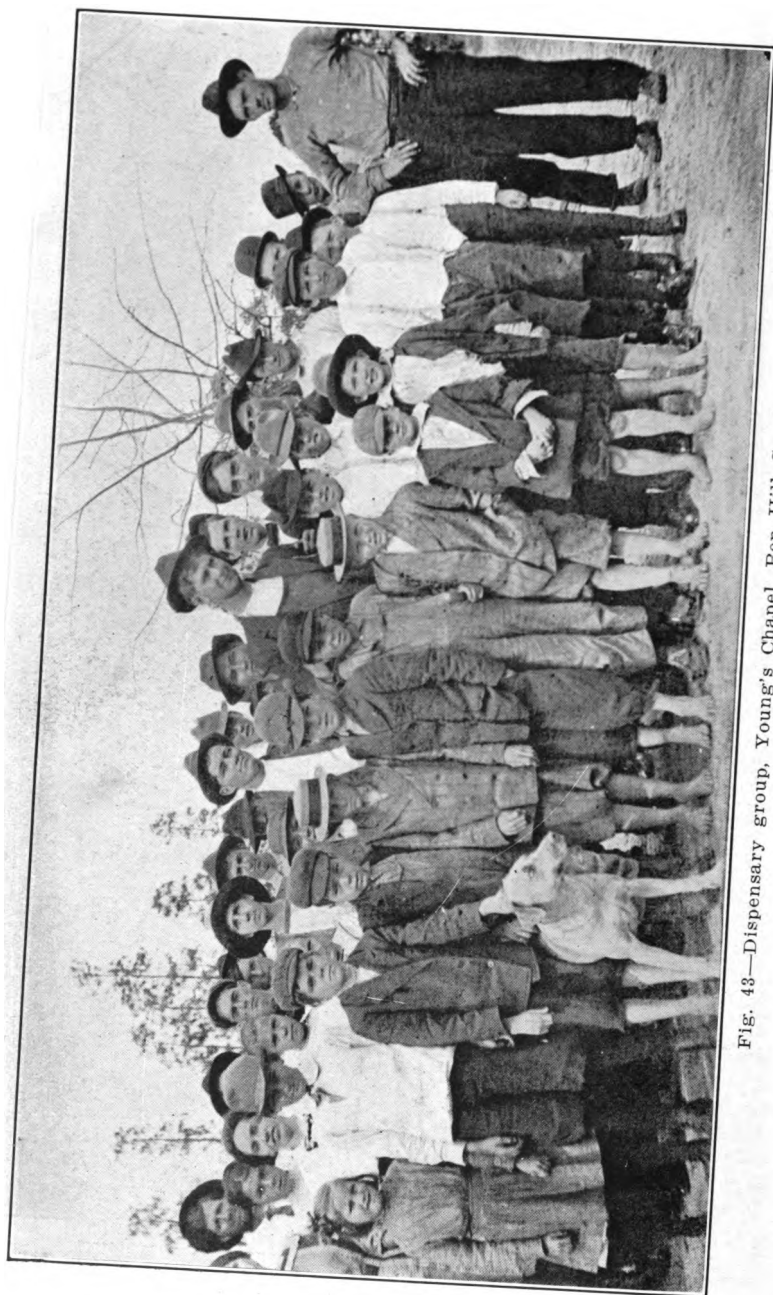


Fig. 43—Dispensary group, Young's Chapel, Ben Hill Co., Ga.

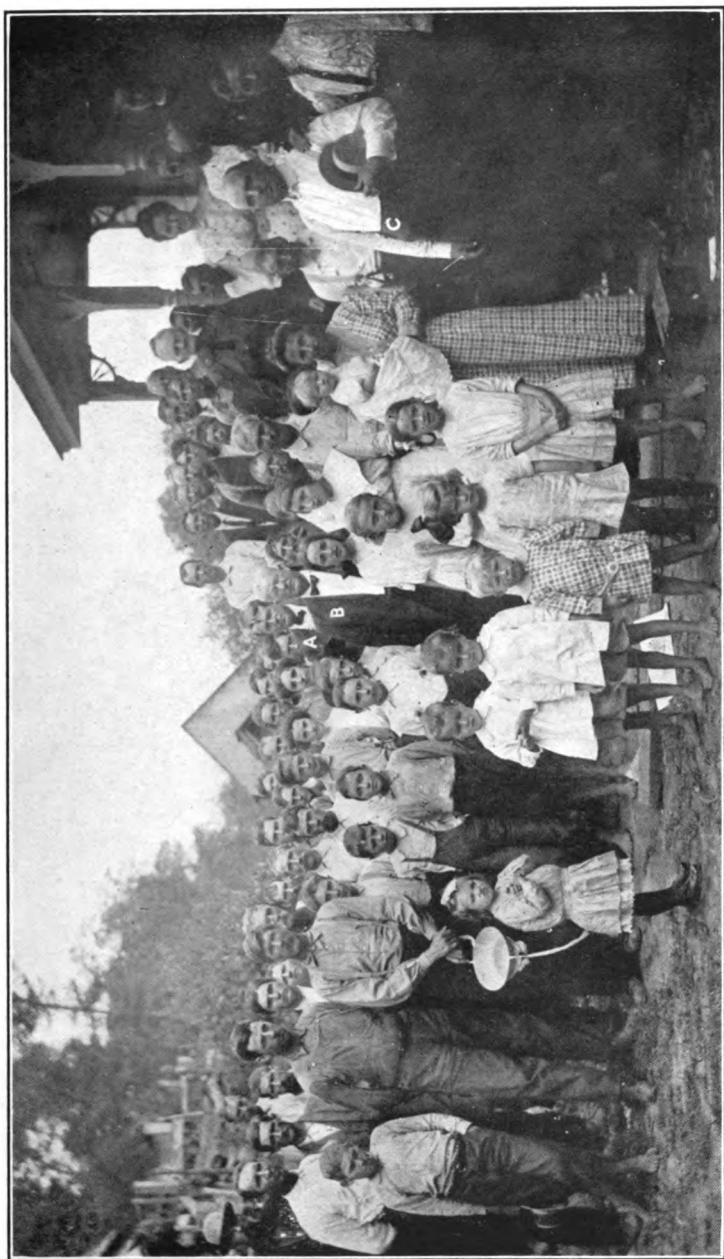


FIG. 44—Dispensary group, Knox county, Ky.; in the heart of the mountains; fourteen miles from railroad. Number of persons examined in county, 3,230; number treated, 1,926.

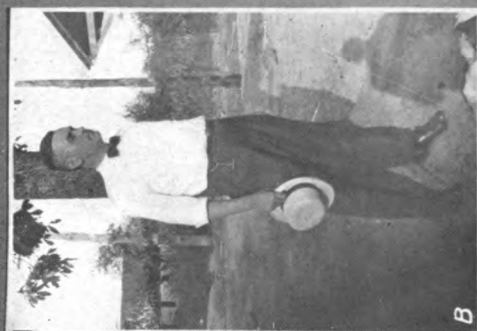
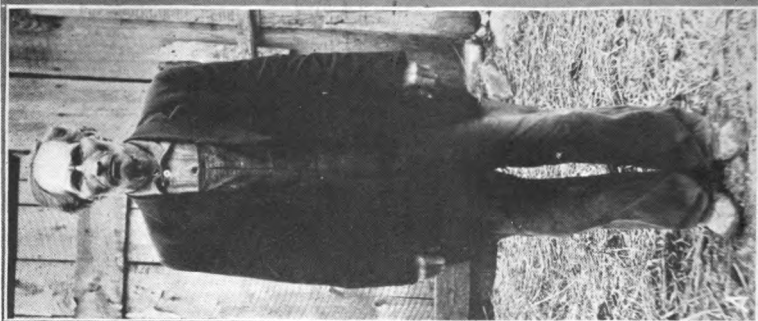


Fig. 45—Showing the co-operation of various agencies. a. Mr. W. R. McGaha, Cosby, Tenn., who collected and brought in specimens from two entire schools. b. Dr. Choate, who gave untiring assistance to the work in Rowan Co., N. C. c. Teachers at Nallan, Cocke Co., Tenn., who brought in specimens from every pupil in school. 75 per cent. infection found.

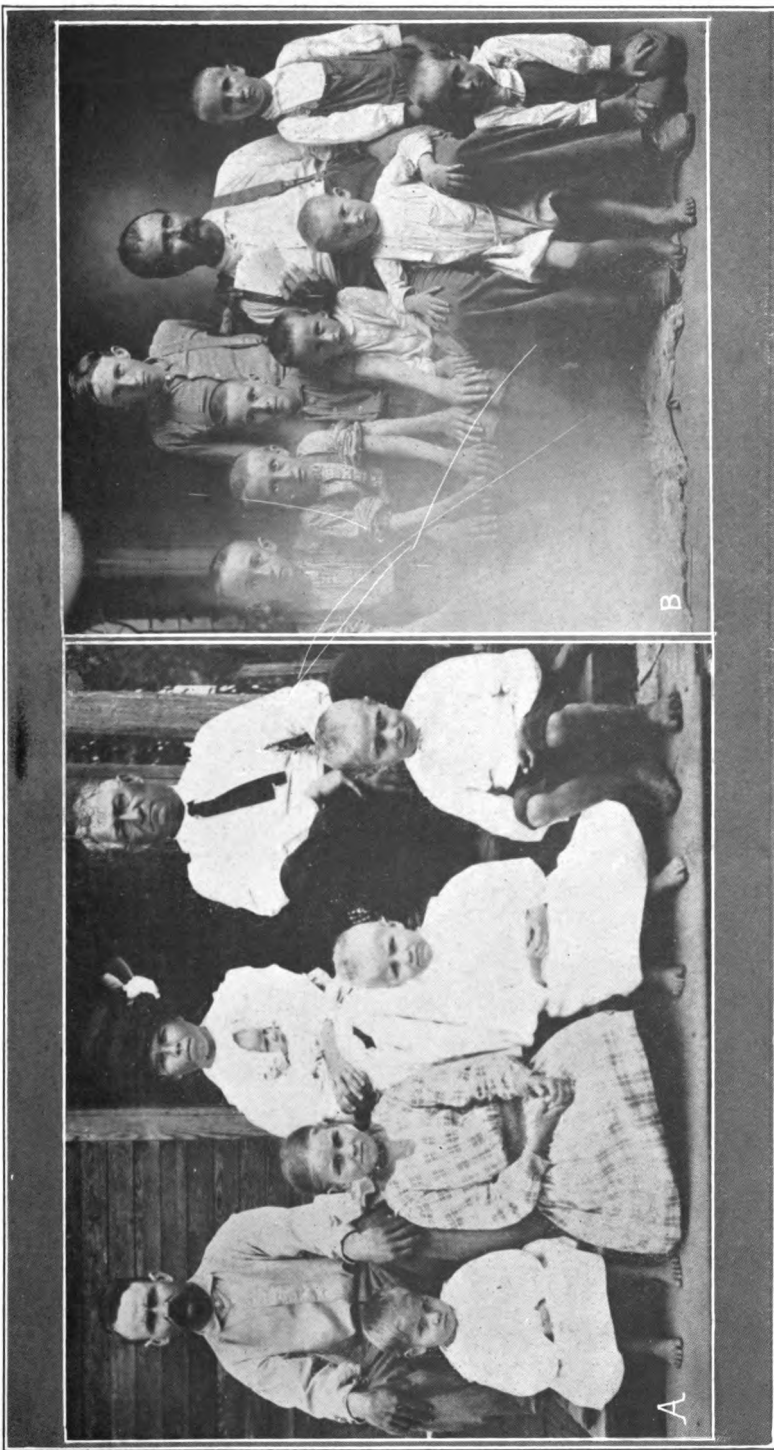


Fig. 46—Showing co-operation of various agencies, a. Dr. J. C. Bailey, Avera, Ga.; has brought in a family to be examined and treated; entire family infected. b. A gentleman of Hickman county, Tenn.; brought in his and his neighbors' boys fourteen miles to the dispensary.

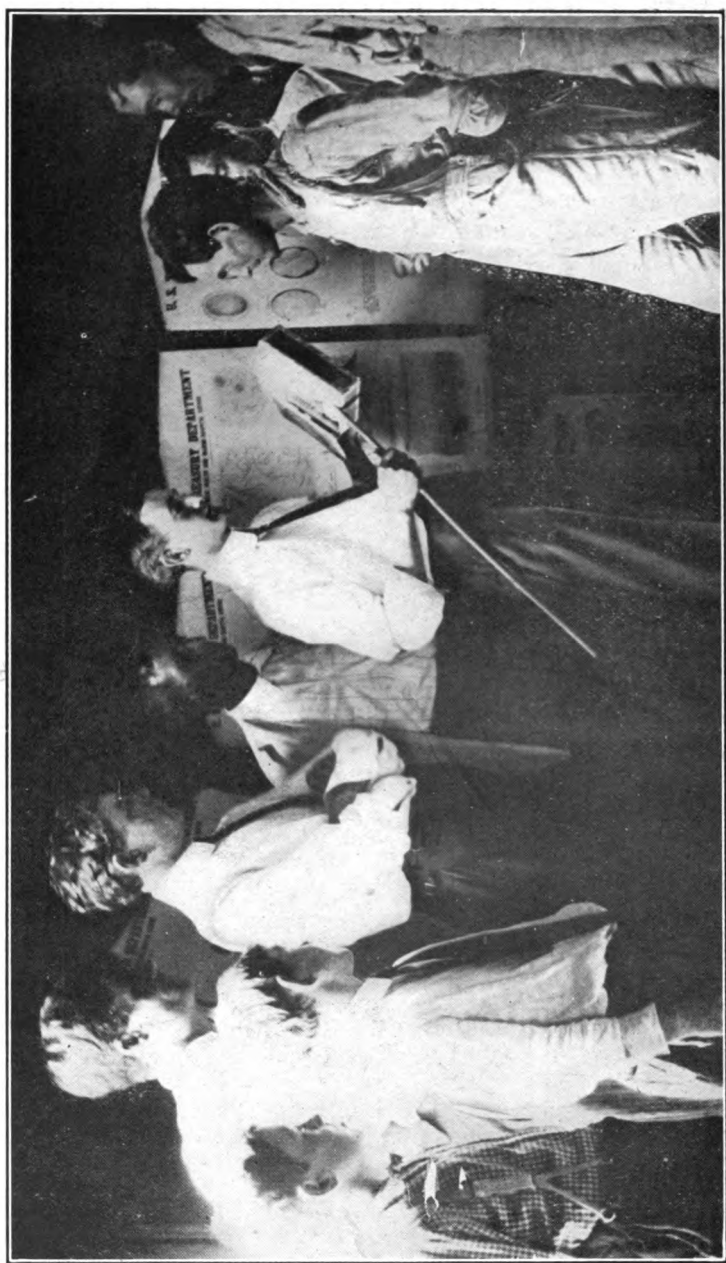


Fig. 47.—Teaching by demonstration. Field director demonstrating with a cigar box the essentials of a sanitary privy. Alabama.

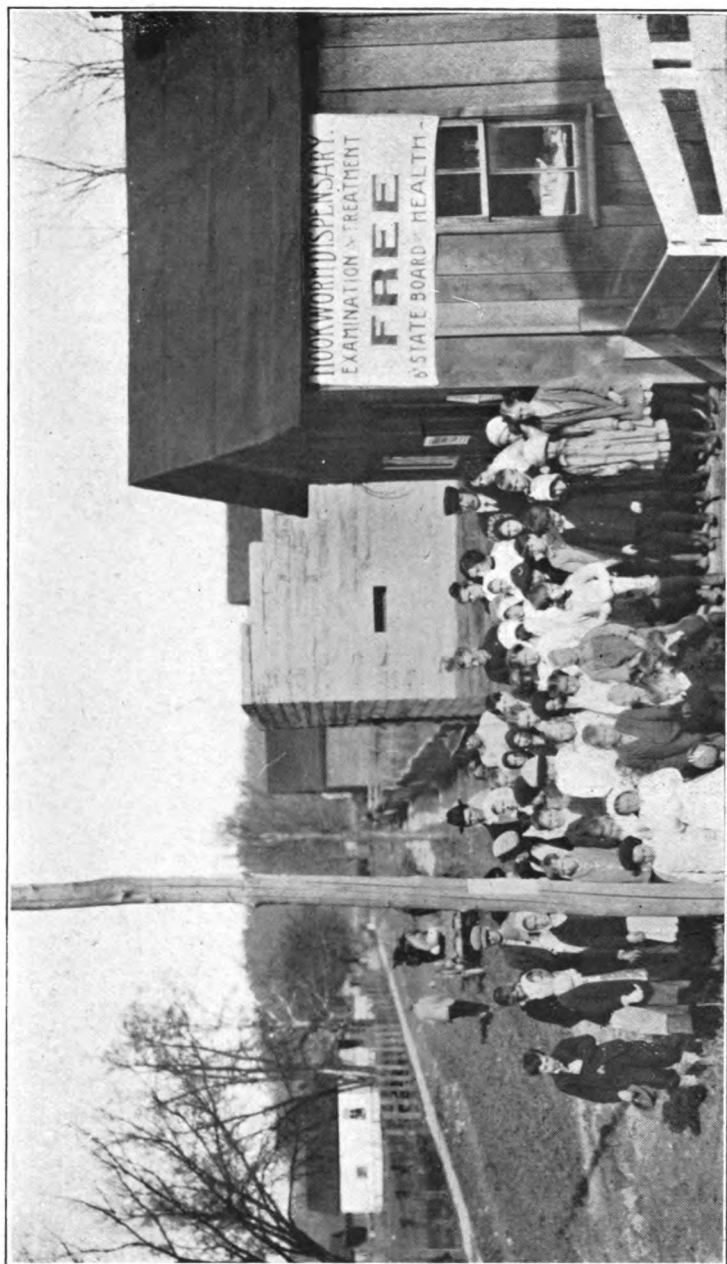


Fig. 48—Dispensary group. Farmers, Rowan Co., Ky.

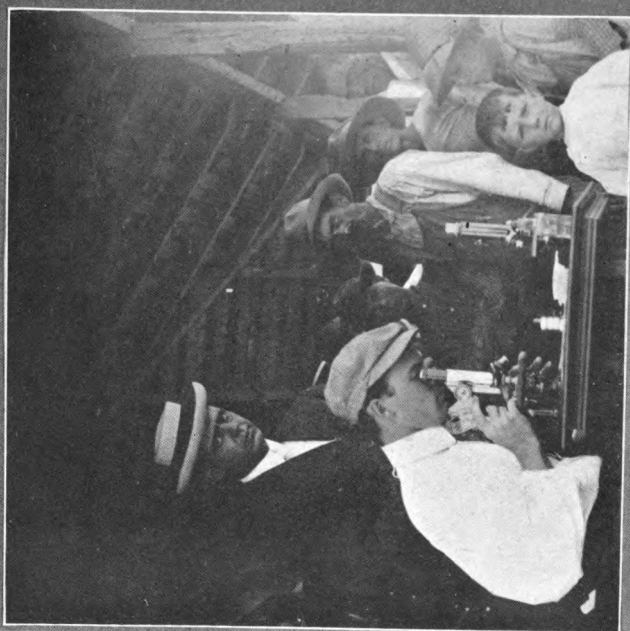


Fig. 40—The diagnosis of infection in all dispensary work is now based on a microscopic examination of the stool. a. Dispensary near Hamstead, Texas. b. Crowd around the microscopes, Jonesville, Va.

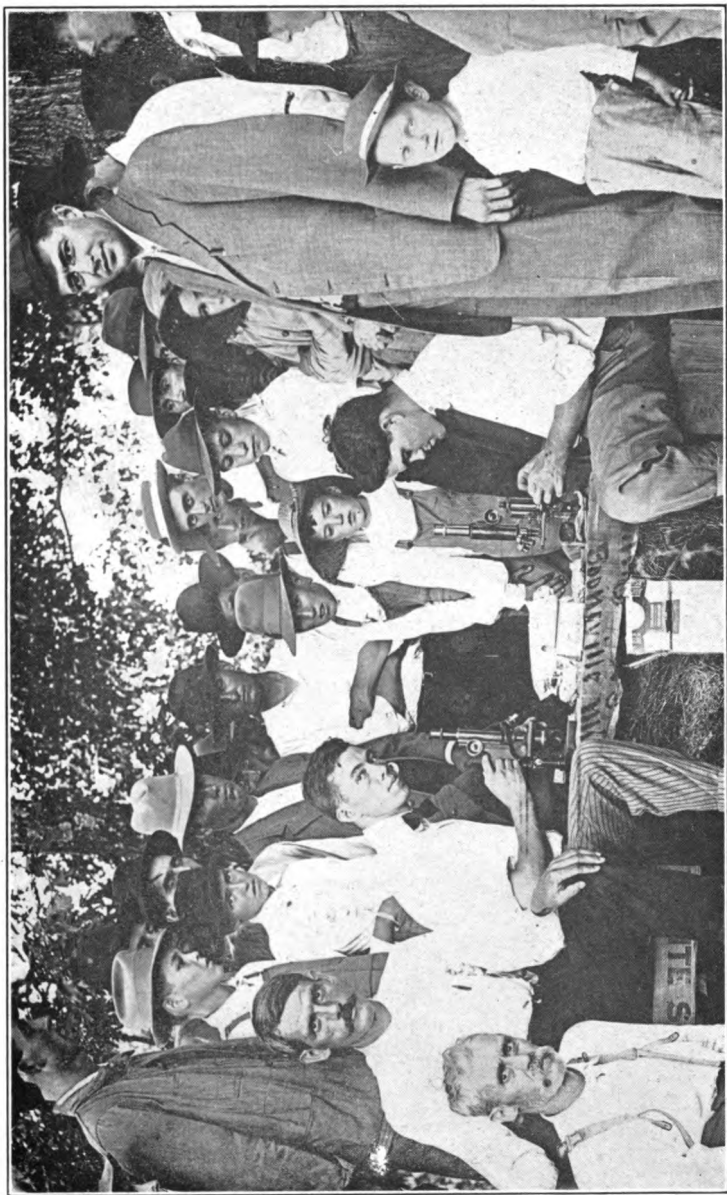


Fig. 50—Outdoor laboratory, Prentiss Co., Miss. On left (dark mustache) a county supervisor. 118 persons examined this day.



Fig. 51—Dispensary. Lilesville, Anson Co., N. C. 182 persons examined here this day.



FIG. 52.—Teaching sanitation by demonstration and lecture, Cocke Co., Tenn.



Fig. 53—Dispensary, Rochester, Butler Co., Ky. Practically every man, woman and child in the town and its immediate surroundings were examined. Young lady microscopists seated at table.

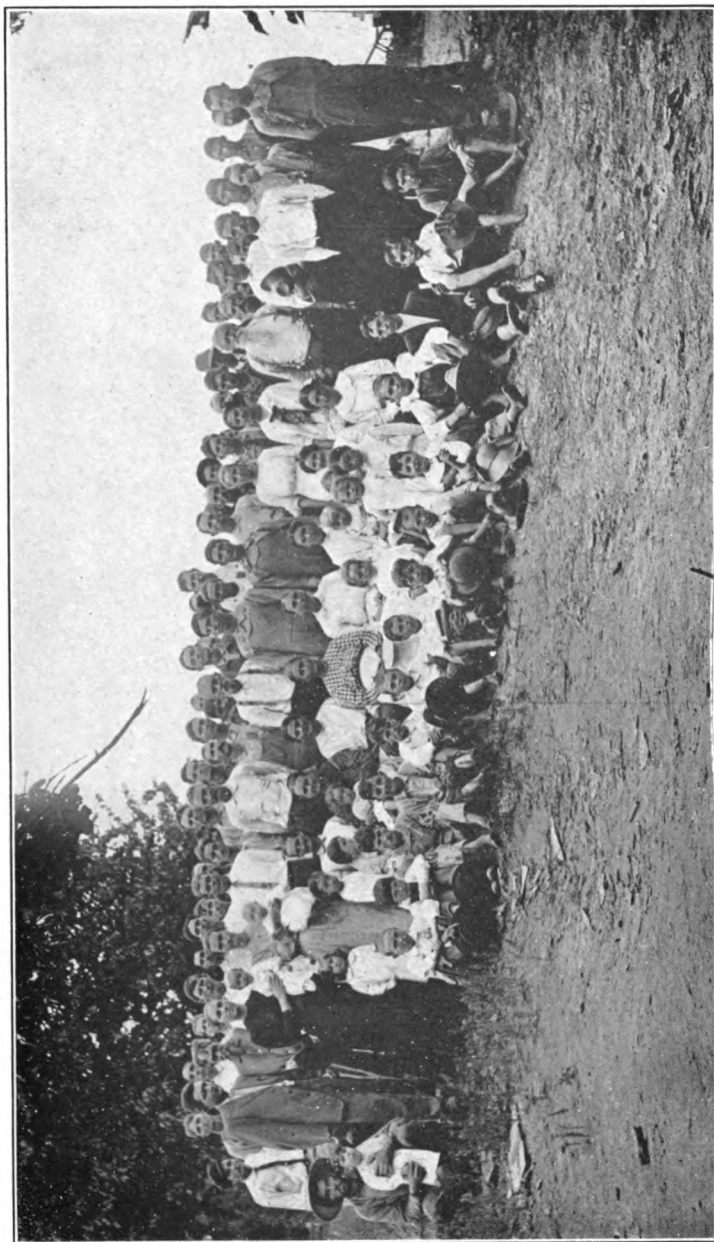
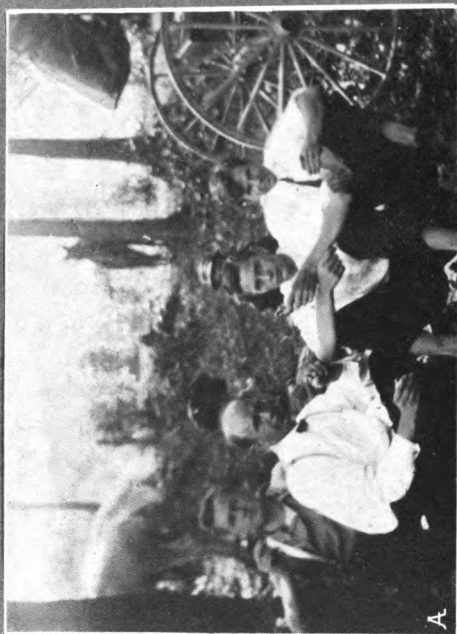


Fig. 54—Attending a dispensary lecture. Altitude, Prentiss Co., Miss. In this county an average of 198 persons were examined, each work day for six weeks. Number of persons treated, 1,433.



A



B

Fig. 55—The dispensary staff at lunch. a. Lee County, Va., where 9,013 persons, 45 per cent. of the total population, were examined in 24 dispensary days; 2,332 persons found infected and treated. b. Smith County, Miss. Dispensary staff traveling through northern part of county.

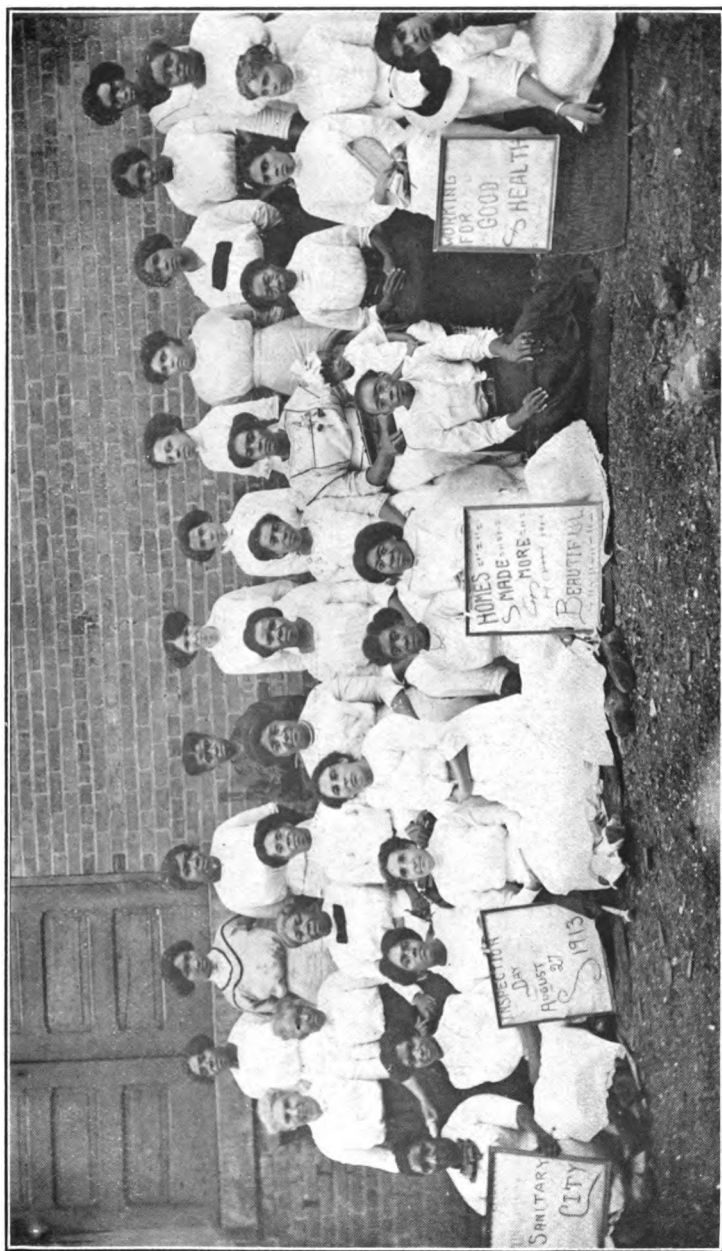


Fig. 56—Civic League of Colored Women, Salisbury, N. C. They have done excellent work in cleaning up the premises of the colored section of the city.

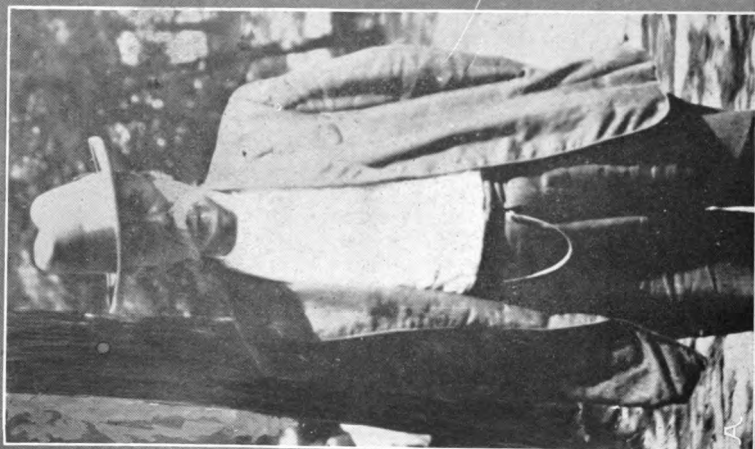


Fig. 57—Showing co-operation of various agencies, a. Mr. W. M. Lee, of Tallulah Falls, Ga., who distributed containers and collected specimens for his entire community. He brought in 31 specimens the first dispensary day. b. Mr. Ellis, Mitchell Co., N. C., active in getting his people to be examined and to build sanitary privies. c. (left) Dr. King, (right) Prof. Williams, active in aiding dispensary work at Lorena, Smith Co., Miss.

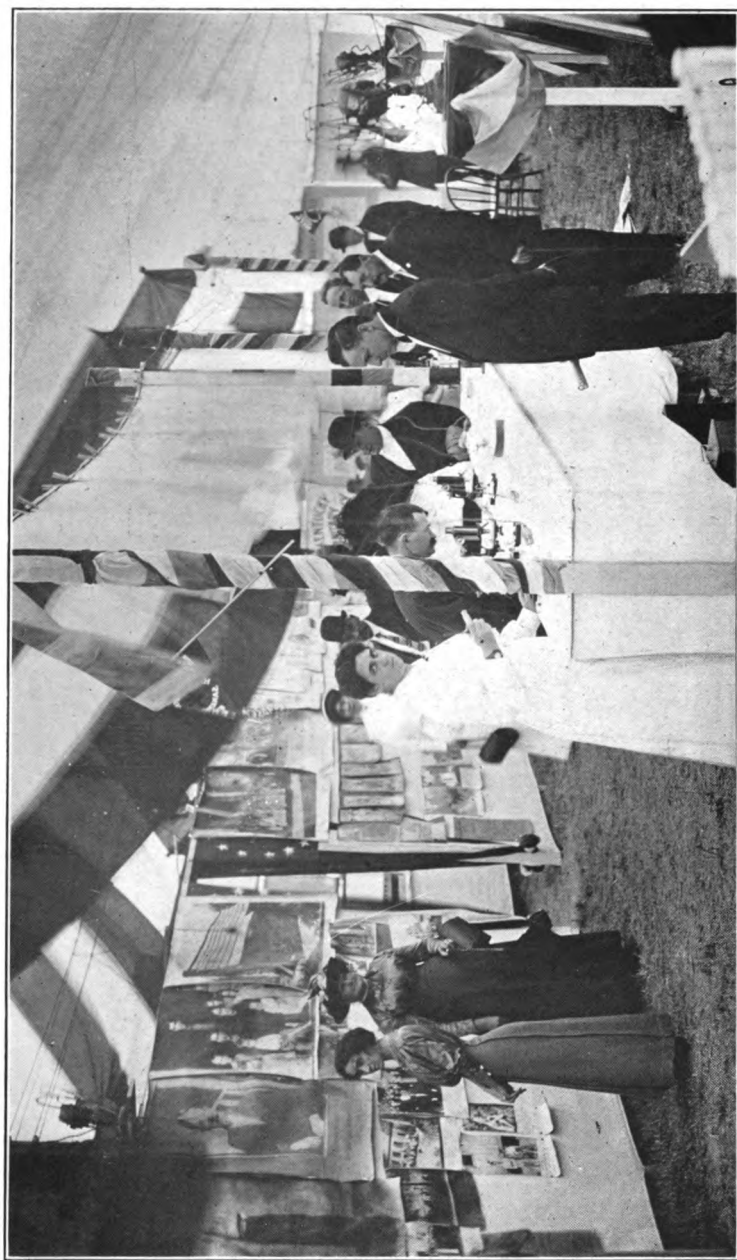


Fig. 58—Creating public sentiment. Exhibit Kentucky State Fair. Interior of tent showing methods for doing health work.

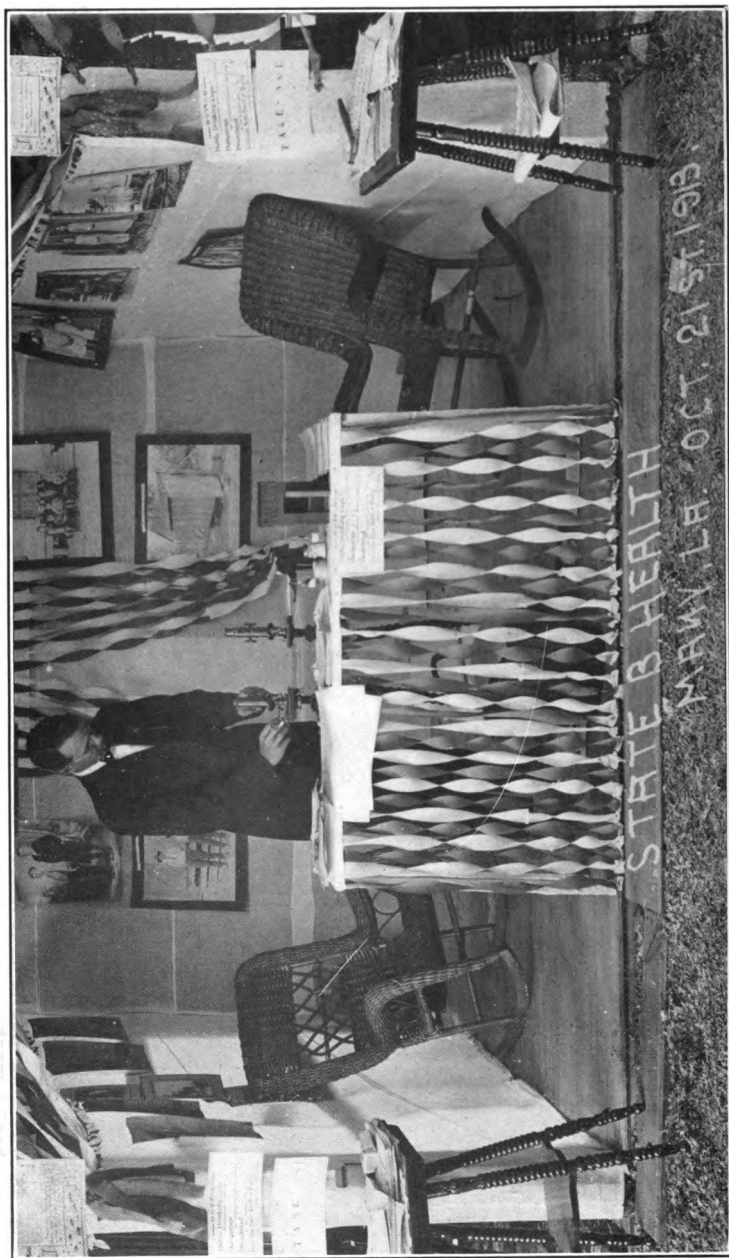


Fig. 59—Creating public sentiment. State Board of Health Exhibit. Many, La.

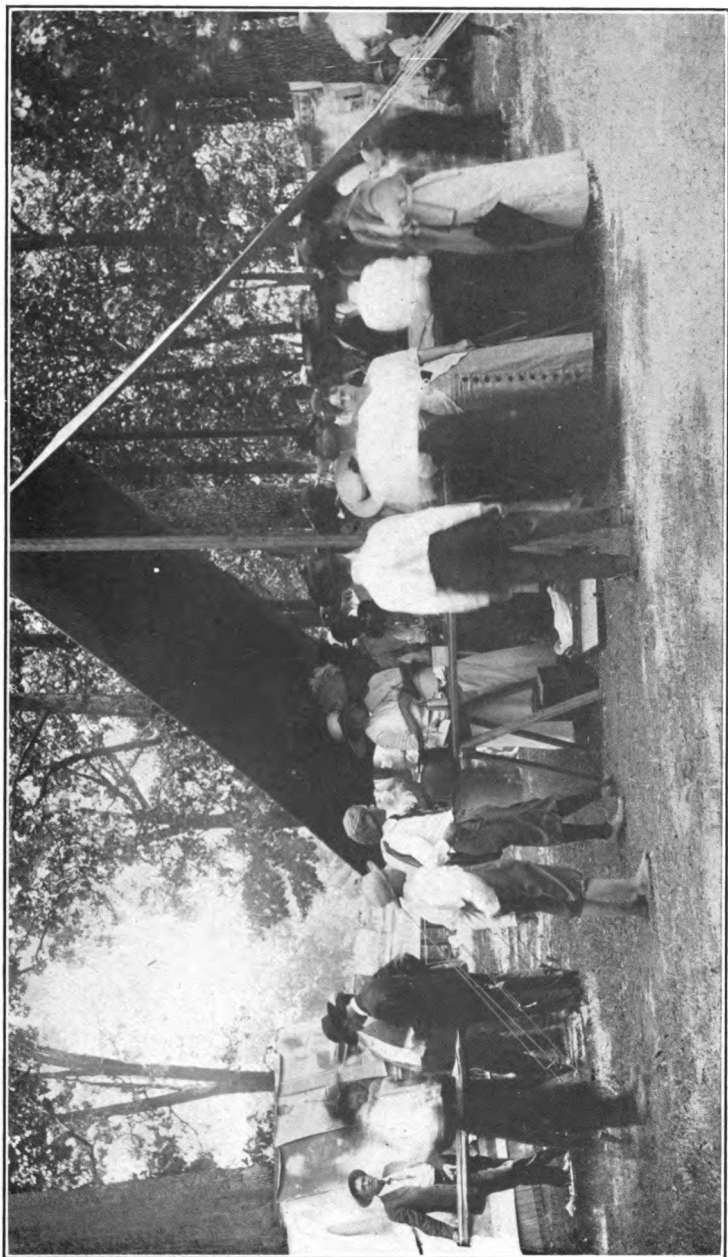


Fig. 60.—Educating the public. Exhibit of the Kentucky health work at Farmers' Chautauqua in Warren Co.
Exhibit includes specimens of intestinal parasites, hookworm eggs under the microscope, enlarged photographs of patients before and after treatment, etc.

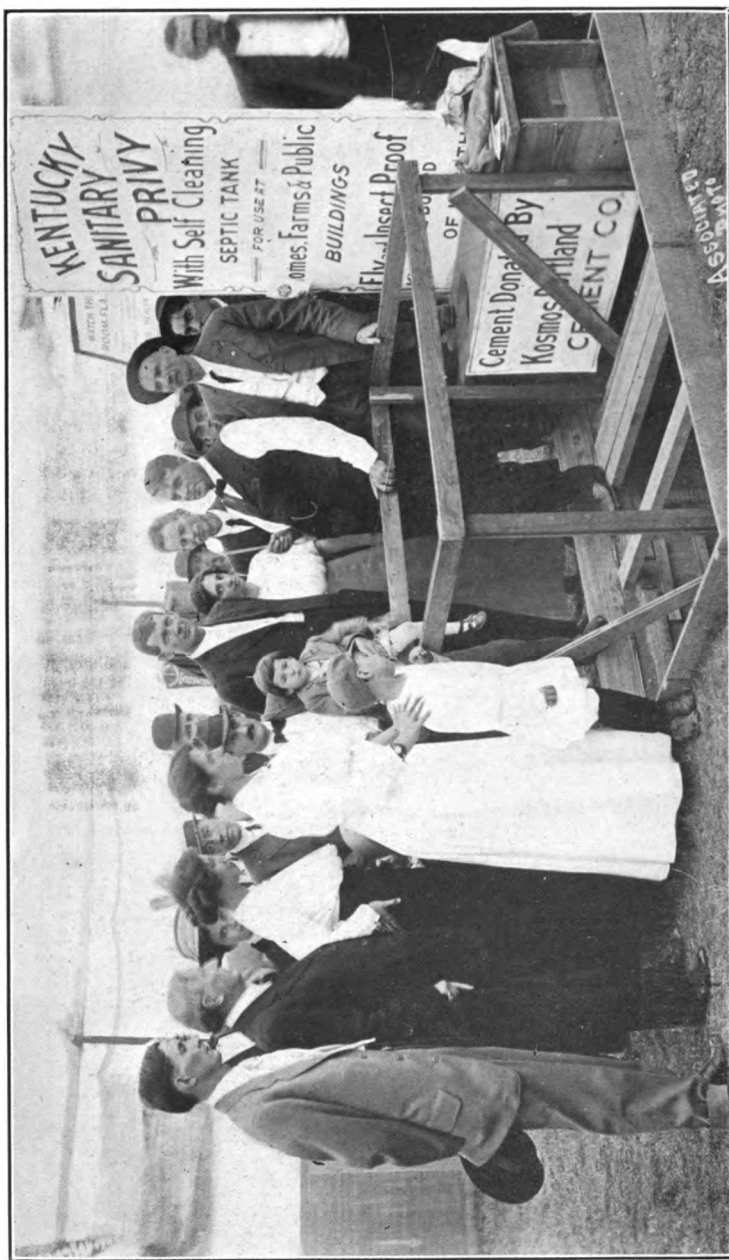


Fig. 61—Dr. J. N. McCormack (shirt sleeves) demonstrating the Kentucky sanitary privy. About 12,000 people saw this model in course of construction.



Fig. 62.—The Governor and his staff with Kentucky State Board of Health force making official inspection. This exhibit met with the Governor's enthusiastic approval.

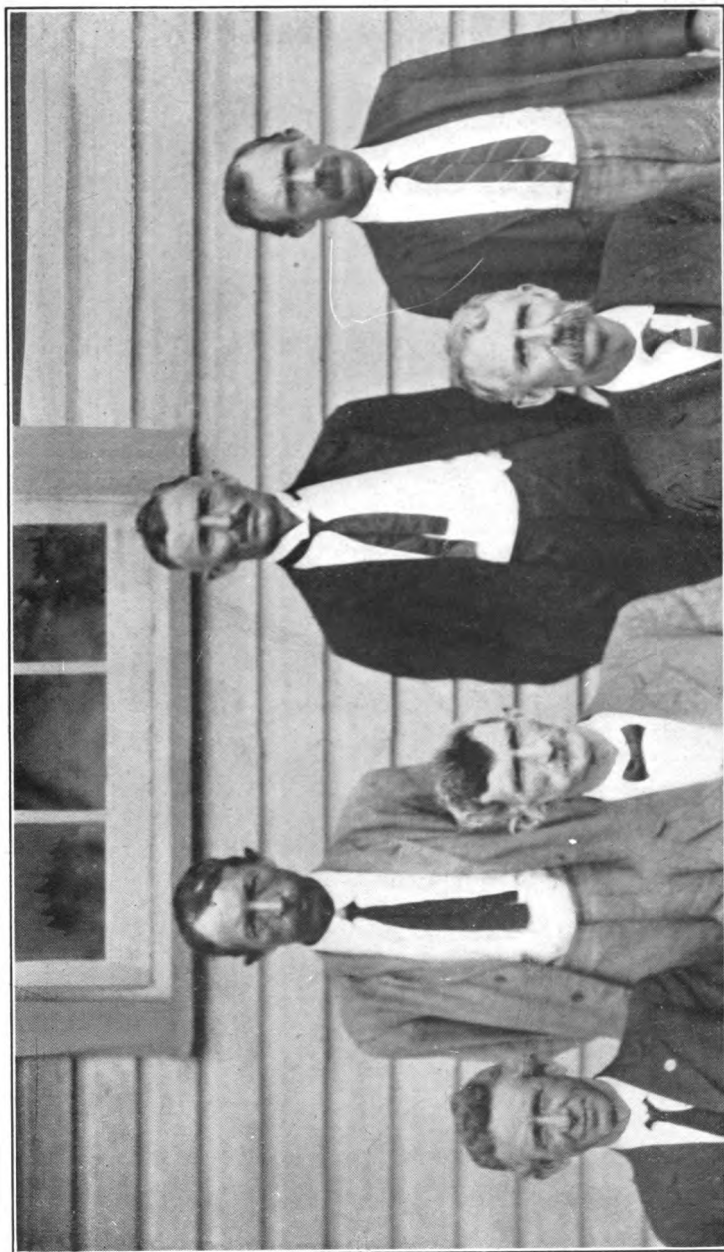


Fig. 63—Knott's Island, N. C. To the left is the Sunday-school Superintendent, to the right the Singing Master. The men in the center are members of the Knott's Island Health Committee, composed of five members, selected in mass-meeting. The Committee employs a community physician for his entire time to keep them well, but if sickness occurs, he gives it attention. Each family, sick or well, pays a pro rata assessment. 567 persons—130 families live on the island. On December 23, 1913, 560 of them had been examined for hookworm infection; 94 were found infected, and 90 have been cured. See Fig. 31.

CHAPTER IV.

A FEW TYPICAL LETTERS AND EXTRACTS FROM LETTERS SHOWING THE CO-OPERATION OF VARIOUS AGENCIES, AND THE ATTITUDE OF THE PEOPLE TOWARD THE WORK.

I. Letters and extracts from letters by physicians.

(1) *Dr. Grote, Field Director, to Dr. Dinsmore, State Director, Ala.*—"Dr. Miller of Myrtlewood came all the way from his home place, a distance of eighteen miles over muddy roads, through the rain, and brought thirteen specimens from his patients, all of whom were infected. Drs. Stone and Brasfield have both attended the clinics to-day."

(2) *J. P. Masterson, M. D., Bessmay, Tex.*—"My dear Doctor: Your commission has just closed operations in Jasper County, and to say that it has done great good, and has been a grand success, would express it only mildly. The money appropriated by our county does not in any way compare with the great good that has been done for the county at large, and even the worth it has been to just one individual infected with hookworm disease. It has enabled and encouraged numbers to be examined and treated, that otherwise would not or could not have been."

II. Letters and extracts from letters by county health officers.

(1) *Karl Chambers, M. D., County Health Officer, Jasper, Jasper County, Texas.*—"Dear Doctor: Over and above the 1,133 treatments dispensed here, the campaign was worth thousands of dollars to the county in an educational way, for the people now realize that improving insanitary environment is imperative. The campaign in this county has received

hearty commendation from every man, woman and child so far as I personally know, and I feel sure that the results obtained warrant all the praise given."

(2) *Dr. W. S. Leathers, Jackson, Miss.*—"Dr. Whitfield on entering Smith County obtained the aid of Dr. Carr, the County Health Officer, on a three weeks trip through the county. This was done at the suggestion of Dr. Carr and at his expense. The County Superintendent of Education used every possible means to enlist the interest of the teachers and children of the schools. This is one of the interior counties and a feature of the work was the unanimous support of the Board of Supervisors. This was clearly shown by obtaining a second appropriation for the campaign without any difficulty."

(3) *V. J. Cragg, County Health Officer, Clanton, Ala.*—"Dear Doctor: The work here has been a great success from every point of view, and I am quite sure that there was a much higher per cent. of infection in this county than was even dreamed of by the majority of the profession, not to speak of the matter from the standpoint of the laity. I feel that much good has been done by teaching the laity the very important matter of prevention as well as the work of treating the patients, who are at present infected."

(4) *Dr. M. H. Boerner, State Director, Texas, to Wickliffe Rose, Washington, D. C.*—"Dear Mr. Rose: I am enclosing you herewith a plan for grading thirty-five schools in Brown County. They are contesting for the One Hundred Dollar Sanitary Prize, offered by Dr. J. W. McCarver for the school that attains the highest grading."

(Type of Plan Followed to Improve School Sanitation.)

TO THE PUBLIC

To become an effective instrument for the protection of child-health, it is essential that the school should be a sanitary and healthful place for children. Recognizing the importance of this broader humanistic responsibility of education, it has been thought wise to inaugurate a clean-up campaign among the schools of Brown County, and through the generosity of Dr. J. W. McCarver, our county health officer, and Mrs. S. R. Coggin, former president of Coggin National Bank, a prize of one hundred dollars is to be awarded the most sanitary school. Dr. McCarver offers \$50.00 in cash to be expended in any way it suits the winners, and Mrs. Coggin donates \$50.00 for books for school library and periodicals.

Every school in Brown County (outside of Brownwood) is eligible for entry; those interested will please mail a card to the county superintendent by March 1st.

The humblest, most unattractive school house will stand an equal chance with the newest and prettiest, as the matter of beauty will not be considered and the judges will grade all schools on a sanitary basis alone. The following points will be considered, each of the four headings being worth 25 per cent.

1. House—Ventilation, cleanliness, state of repair.
2. Grounds—Drainage, trees, provision for healthful sports, rubbish, etc.
3. Water—Source, container and cups, freedom from pollution.
4. Toilets—See or write to Dr. J. W. McCarver for particulars.

This contest will close the last day of March, 1913, and judges will begin inspection on March 15th. The time is short, so let teachers, trustees, mother's clubs, fathers, sisters, brothers, uncles, aunts, and cousins lend the children a helping hand in this great work. Let this clean-up movement be the greatest trust ever organized in Brown County; its dividends may not be counted in dollars and cents alone, but in brighter faces, rosier cheeks, keener intellects and happier co-workers with our Maker in the progress of civilization.

(Signed)

MRS. E. L. WALKER.

III. Letters from High Officials.

Hon. Earl Brewer, Governor—To the People of Mississippi:

The importance of the laws of Sanitation and Hygiene is now being brought to the attention of our people as never before. The School Improvement Association, under our State Department of Education, and State Board of Health, are doing their utmost to educate our people on this subject. Particularly are our children being taught the necessity of clean living, and those rules which if followed, will give them immunity from so many of those diseases which interfere with their work at school, and cause ill health in maturer years.

The School Improvement Association has issued a program to be observed in all our public schools, and I most heartily commend it.

To emphasize the importance of this question and show my interest in it, and in order that it may be brought to the attention of our people, I do issue this

PROCLAMATION

calling on them to observe Friday, October the Thirty-first, 1913, as HEALTH DAY, and on this day that their energies be redoubled, and their faculties brightened so as to acquire that definite knowledge which is necessary for better health and better living.

THE
GREAT SEAL
OF THE
STATE OF
MISSISSIPPI

IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY
HAND AND CAUSED THE GREAT SEAL OF THE STATE
OF MISSISSIPPI TO BE AFFIXED, THIS, THE THIR-
TEENTH DAY OF SEPTEMBER, A. D. 1913.

(Signed) EARL BREWER.

BY THE GOVERNOR
JOSEPH W. POWER,
Secretary of State.

(2) *Jas. K. Vardaman, U. S. Senator from Mississippi.*—
“Dear Doctor: I think the State of Mississippi is to be congratulated upon the great work that you and your co-laborers are doing in the interest of health and sanitation. If I had been told some years ago that hookworm was so prevalent in Mississippi, I could not have believed it. The disease has done a great deal of damage, and those engaged in exterminating it deserve the gratitude of all men. The same thing is true with reference to pellagra, tuberculosis, typhoid fever, and in matters of general sanitation.

If I can be of any assistance to you in this great undertaking please command me.”

To Dr. W. S. Leathers.

IV. Letters and extracts from letters by teachers.

(1) *Edward F. Green, President Carolina Collegiate and Agricultural Institute, Star, N. C.*—“Dear Doctor Pridgen: Permit me to say that the examination showed 47% of our students were troubled by the Hookworm pest. There had been a noticeable lack of interest both in play and in the studies on the part of a goodly number of the students. The treatment given by Dr. Covington was marked, and to a noticeable degree even on the part of people not watching the effect of the treatment closely. In the classroom the improvement was very perceptible in the growing interest in the work, and the grip the students got on their studies. The pallor went from the faces, and there was a manifest desire to take part in the games on the playground after the treatment. It was a rejuvenation in a very real sense.”

(2) *Exhibits from two institutions showing difference in efficiency which seems to have been caused by a light infection:*

(a) Blue Mountain Female College:

Average grade of 56 girls who were found infected.	77.75%
Average grade of 56 girls taken at random not infected.....	89.28%
Of two sisters in this college, grade of one infected.	78 %
Grade of other not infected.....	87 %

(b) Mississippi Heights Academy:

5 young men not infected (ages 20 to 28), average grade.....	92.2 %
5 young men infected, average grade.....	89.8 %
5 boys not infected (ages 12 to 17), average grade.	84.2 %
5 boys infected, average grade.....	81.0 %
25 men and boys not infected, average grade....	86.0 %
25 men and boys infected, average grade.....	64.0 %

3. *Examination of Students at the A. & M. College, Mississippi.*—At A. & M. College, Mississippi, 819 students were examined for hookworm infection, of whom 323, or 39% were found infected. An examination of those students coming from sandy counties showed 69% infection. A series of 625 of these students showed only one athlete infected; an examination of the 144 officers showed only five infected.

Twenty-five men, five feet ten inches tall, not infected, averaged in weight 156 pounds; twenty-five men, five feet ten inches tall, infected, averaged in weight 147 pounds.

Of the twenty-five not infected:

- 5 made an average of 90 and above
- 11 made an average of 85
- 5 made an average of 80
- 3 made an average of 75
- 1 made an average of 65

Of the twenty-five infected:

- 0 made an average of 90
- 11 made an average of 75
- 2 made an average of 85
- 3 made an average of 80
- 9 made below 75

V. Description of Work by Field Directors.

(1) *Dr. J. S. Lock, Field Director, Williamsburg, Ky., to Dr. McCormack, May 13, 1913.*—"Dear Doctor: This has been the banner day in my dispensary work. We have had a total of 881 specimens brought in. The entire county is greatly aroused. Every county official, including the magistrates from the different sections, have been present all day aiding in the work. Every doctor in town was out, and gave the entire day to the work. We worked on the court house lawn, and fully 25,000 people were present during the day. The people said we had as large a crowd as they had ever seen in the town on any occasion."

(2) *Dr. Lock, Field Director, From Bush, Laurel County, Ky., July 11, 1913.*—"After all the specimens were in to-day, we made our count, and found that we had examined 328 specimens, and that we had 1,359 specimens (a total of 1,687) to send to the laboratory."

NOTE—This is the record for the largest number of specimens brought into a dispensary for any one day. 6,381 per-

sons were examined in Laurel County, Ky., in twenty-one days.

(3) *Dr. Henry Boswell, Field Director to Dr. W. S. Leathers, State Director, Miss.*—"Dear Doctor: I have just finished the work in Prentiss County. We examined about one-third the total population. I have not before seen such interest manifested, nor more permanent results obtained.

"The co-operation was excellent. The county officials gave their influence and time to promote the work. The Chancery Clerk attended to the central office work throughout the preliminary campaign.

"At one dispensary three small boys came each week two or three miles. They always rode three little bulls, which seemed to saddle very well and to attract much attention.

"At Thrasher, the co-operation of one woman was noteworthy. She combatted disbelief and prejudice in her community. In phoning one morning for 25 specimen containers to distribute, she said: 'I succeeded in getting one of these fellows to have examination made and to take treatment. He is feeling better and has gained in weight. Now that the people have seen that the medicine did not leave him blind or crippled, but is actually helping him, they are wanting to be examined.' The woman was instrumental in having about one hundred persons examined.

"A young man that we treated furnished us the best recommendation that we could have had. He came to the office about the third week looking as if he had the worst case of tuberculosis, and with a cough that appeared serious. He was such a picture of dejection, misery, and lost hope, that he attracted the attention of the whole court house crowd and many of them watched eagerly to see the results of the examination. One man asked me, after he left, if I could cure

him, and I replied that we would do our best. This man then kindly stated that he thought that I was doing the boy an actual wrong by holding out a hope, as it was his belief that the boy would die in a very short time. This boy was instructed to return every week for his treatment until informed that he was cured. He did; and it was a standing request by the court-house officials that they be called each week as Willie Livingston came in, so that they could see for themselves whether he was improving or not. On his first trip, one week later, he came in, and there was evidence of much improvement. He came in with a smile, showing more interest in things around, telling jokes to fellows in the office, when just one week before he had stood listless without a word to anyone except to answer yes or no when a question was put to him. He informed us that on this trip, although he had taken his medicine only a week ago, he was feeling a great deal better, and when placed on the scales, I found that he had gained a number of pounds in weight. He was given three treatments, one week apart, and after waiting two weeks following the third treatment, he was found free from infection, and weighed eighteen pounds more than he did previous to the first treatment. On the day that he first appeared at the dispensary he could hardly walk, and the last time that I saw him he started with another boy to walk seven miles to his home. As he left the Chancery Clerk said, 'Well, if you had done nothing but treat this one boy of this county, the money would have been well spent.'

"Another man, a Mr. Chase, came up and thanked me saying: 'I have lost two boys, and the others had begun going down in health, just as they did, but thank God, they will be saved, because you have told me what the trouble is, and have cured them.'

"As I closed the office on leaving for the next county, a mem-

ber of the Board of Supervisors came by and said that if I would stay in that county they would double the appropriation, that nothing they had ever done had accomplished the good of this work, and that it was a work that was appreciated by every citizen of the county.

"It might be mentioned that some school buildings were repaired, sanitary conveniences provided, and likewise the sanitation of the entire county improved.

"Trusting that I may be able to do as good work in the next county, I am."

(4) *Dr. M. W. Steele, Field Director, Kentucky, to Dr. A. T. McCormack, State Director.*—"Dear Doctor: I have just closed the campaign in McCreary County with 5,252 examinations. This campaign has been one of unusual interest and has been very successful in every particular. We have found the hookworm infection about 57%. One locality about Buzzard Post Office showed 91% infection. The roundworm infection has been very high; found the usual number of cases of whipworm and dwarf tape worm. Practically all cases of infection have been treated with splendid results. The results in some cases have been almost miraculous.

"One good old lady was interested to take containers and go among the shy girls, and secure specimens and bring them in, and she would in turn deliver the treatments and give instructions. The results have been so splendid that I cannot picture to you how grateful the people are. People throughout the country hearing of our work came from all sections to know about the good work, and to be examined. The demand became so great for a county wide campaign that it became almost compulsory upon me.

"Mr. W. B. Creekmore came from Pine Knot and proposed to do anything in his power to help us, insisting that his people

must have the benefit of the work. Then came Mr. Walker and Dr. Cain from Cumberland Falls, and others proposing to bear any part of the expense necessary.

"Messages were sent to the State Board pleading for a continuation of the work. I proposed if the Fiscal Court would bear the expenses of my assistants while in the county, that I would comply with the requests; but what about this matter. At that time there was a contest on for the judgeship and a bitter feeling existed in some sections. The county seat question was being hotly contested, but everybody wanted our work to go on; in fact, they would not let us leave. One claimant to the judgeship with four of the six magistrates met and allowed a fund for the expense. The other claimant to the judgeship gave me an order on the treasurer. Because of legal questions aside from this matter the treasurer was afraid to pay over the money, but joined with others in urging that our work must not stop. One Mr. Kinna, a patriot in the cause, came to the rescue of the matter and advanced the necessary funds on the order of the court. Both claimants to the judgeship served on a citizens' committee, and approved of a schedule of dates and places for our investigation. We then made these places in their order, giving lectures, visiting homes, meeting people in squads on the roadside, and treating hundreds of cases. Everybody seemed to be helping, and I am told that this subject is the talk of every home there. These are a splendid people, an appreciative people. A very small per cent. are educated, but they manifest the highest type of common sense. There are no foreigners and but very few negroes in the county. All are natives of good names—Stevens, Creekmore, Bell, Worley, Foster, etc.

"Judge Williams, who had been declared the rightful Judge, said, keep up the work at any expense, and it will be taken

care of. It will interest you to know that one old lady walked ten miles to have her family examined. The following day she returned and asked for a box of containers for her neighbors. She went among them on foot and secured 146 specimens in one day. She later delivered the treatment in the same way. She could not read, but said she took along a little boy who could read to deliver the treatments.

"Four men came horseback from Wayne County yesterday to learn what is to be expected of them to get the work extended there. Many have come from Pulaski County and the County Judge says 'come as early as possible. I will give one hundred to start on and call the Fiscal Court together, if necessary, for the balance.'

"We are coming in for a few days. Will see you."

(5) *Dr. O. H. Judkins, Field Director, Texas, to Dr. Boerner, State Director.*—"Dear Doctor: We are completely swamped. It is a physical impossibility for the boys to examine these specimens. There has been a constant stream of people passing through the dispensary all day, and we have had to lock the doors to keep them out. I have talked to them in squads of about 250 in the District Court Room when they would overflow the office. We are sending the specimens to you.

"One box of specimens was sent in from St. Mary's Seminary, LaPorte. These are in a box by themselves, and the report can be sent to Rev. J. M. Kerwin, St. Mary's Seminary, LaPorte, Texas, and it will be necessary to fix the treatments up there and send with the report."

CHAPTER V.

REPORT OF THE SCIENTIFIC SECRETARY

Addresses.—During the year 1913 I have given 73 addresses bearing upon the public health subject of hookworm disease and soil pollution, and in addition to these, several addresses have been given by my Private Secretary.

Lantern slides.—The State Boards of Health now procure their slides directly from the manufacturer, instead of through my office, but I still continue to keep on hand several sets to loan to physicians, teachers, and others who wish to give addresses on this subject.

Microscopic diagnosis.—The State Boards of Health have now had so much experience in the microscopic diagnosis of intestinal worms, that it is only in exceptional cases that specimens are referred by them to me.

Field work.—The greater part of my time this past year has been given up to certain field studies in County Z... and in County X... The results of the work in County Z... are now nearly ready for publication, and will soon be issued. One entire month was spent in campaigning certain counties in two states in the interest of better sanitation.

Investigations.—Of the various investigations under way, or recently published, it is desired to report formally at present only the following:

(a) *A Test to Determine Fecal Contamination of Food.*—For some time past, I have not been able to escape the conviction that improvement in sanitation is not resulting so rapidly as is desirable. The lay mind is aroused in the face of an unusual epidemic that affects business, but seems fairly well contented to permit long-existing conditions to continue

if the annual death rate is not much higher than usual, despite the fact that this rate may be unnecessarily high. An active desire for better sanitation in this country is found chiefly among a relatively small proportion of the medical fraternity, in a relatively much greater proportion of the public school teachers, and in some members of women's clubs. The average American has very little idea of sanitation and very little interest in it. Two important new developments are, however, the increased interest among certain life insurance companies and certain senators and congressmen, exhibited along the line of popular education for better health protection.

It has seemed to me that we have possibly lacked a method of putting the subject before the average lay mind that will be sufficiently striking to arouse popular interest, and I have been giving considerable time and thought to the possible development of some new point of attack. At present, I believe that I have a method that will appeal to the average person, at least to the extent of inducing him to think of the conditions under which he is living.

We find in the intestinal tract of man three minute protozoan organisms that are obligatory parasites, that is to say, these organisms spend their motile stage as parasites, while their non-parasitic existence is confined to spore stages that serve to transmit the infection from one person to another. These three parasites are known as *Entamoeba*, *Lambliia*, and *Trichomonas*. Since they are obligate parasites and since they could not arise by spontaneous generation, their presence in a person's intestine is proof that the person in question has swallowed material discharged from some other person's intestine. The spores are discharged in the feces and can be easily found in privies.

There are several conceivable methods of transmitting these organisms from one person to another, but I am persuaded

that so far as the regions are concerned in which I have been working, the ordinary method is by means of the flies that breed and feed in human excrement, and that these insects carry this material and the protozoan spores to the kitchen and dining room, and smear it on the food. In experiments that have been made at the U. S. Marine Hospital in Wilmington, we have succeeded, in fact, in recovering the spores of *Lambli*a from flies that have visited human excreta.

The parasites mentioned have a very wide geographic distribution. In this country, one or another of these genera is known from New York State on the North, to Alabama on the South, and to California on the West. Thus, a plan of campaign for better sanitation, based on the finding of these protozoa, can be carried out in practically any part of the country.

The method I am trying to present is this: Specimens of fecal material are collected from a number of people, preferably at first, from the children of the more educated and more refined people in a town; these specimens are examined not only for intestinal worms, but also for these protozoa. In case any of the three genera in question is found, the mother of the child is notified by mail that the microscopic examination gives positive evidence that her child has eaten food contaminated, probably by flies, with human excreta, and she is advised to request the local health officer to inspect the block in which she lives to see whether there is not some insanitary privy near-by that is supplying their table with infected flies.

Although this line of educational work is still in its infancy, it is already safe for me to conclude that these letters are followed by a greater and more emphatic demand for the abolition of the surface privy than I have thus far met with in a 13-year campaign against soil pollution.

It is an interesting point of considerable practical import-

ance that seemingly only one family has thus far taken offense at the receipt of these letters.

As an indication of the frequency of these parasites in stools not obtained with salts, it may be stated that recently in a group of 187 unselected cases, the following results were obtained:

Result of Examination	People Living in Homes			
	With Sewer		With Privy	
	Number	Per cent.	Number	Per cent.
Negative.....	88	80	54	70
Protozoa present.....	22	20	23	30
Total.....	110	100	77	100
Protozoa found:				
Entamoeba coli.....	9	8	6	8
Lambli.....	9	8	14	18
Trichomonas.....	2	2	3	4
Undetermined genus.....	2	2	.....	.....

At present I have arrangements completed to apply this test of unconscious coprophagy to all the school children, white and black, of an entire county, and if the results in education along sanitary lines are equal to the present indications, I shall extend the work to other localities. Four State Health Offices have already invited me to make State-wide tests in their States.

I must confess that the slowness of improvement in sanitation in the last 13 years, in the United States, is a very distinct

disappointment, but I am rather persuaded that this new test by which we can state to the mothers that we have proof that their sons and daughters have actually swallowed material that has come from the bowels of some other person (though we cannot state whether that person was white or negro), places at our disposal a method by which we may in the next 13 years create a more active and more intelligent demand for sewer connections or for the sanitary privy than has resulted from the past 13 years work.

While the protozoa and flies in question are far removed from the subject of hookworm disease, from one point of view, it will be seen that when it comes to an improvement of the sanitation in order to eradicate hookworms, these protozoa and flies are able to furnish us with more appealing arguments than even the hookworms.

(b) *Effect of Light Infections.*—There still exist a number of persons who believe that light infections with hookworms are of no clinical importance. This past year it has been possible to study certain phases of this subject and the results will soon be published. For the present all that I desire to state in this connection is that the view that infection with say less than 100 or 50 hookworms is clinically unimportant is negatived by the fact that treatment of such cases has resulted in showing that the children in question have made greater improvement in certain respects, in a given time, than has a control group of children who did not show hookworm infection and a control group of children who did have the infection but were not treated.

A study of the full results of the work in this investigation will require several months longer before the manuscript will be ready for publication.

(c) *The U. S. Marine Hospital, Wilmington, N. C.*—Prior to 1913, I have for several years past transferred my work

in the summer from the Hygienic Laboratory at Washington, D. C., to the Marine Hospital at Wilmington, N. C. Last spring, the Surgeon-General transferred me to Wilmington to take charge of this hospital, so as to give to me in my hookworm work the advantages that naturally result from being constantly in the area of infection. The policy of ultra-economy in its hospitals forced upon the U. S. Public Health Service because of the existing appropriations has not permitted the expansion of the work for which plans exist, but I am greatly in hopes that a change of policy will soon be possible. In the meantime, the facilities of the hospital are being used for laboratory purposes and are thus presenting greater advantages along certain lines than I could possibly have in Washington.

Publications.—The following articles bearing directly or indirectly upon the hookworm campaign, have been printed:

STILES, (C. W.):

1913a. Hospital relief for the country. The possibilities offered by hospital trains in furnishing much needed medical and surgical facilities to rural districts. <Public Health Reports, Wash., v. 28 (5), Jan. 31, pp. 208-212.

1913b. Idem. Reprint No. 115, U. S. Public Health Service. 8° Washington, pp. 1-7.

1913c. Country schools and rural sanitation. Six samples public schools in one county. Does this county need medical inspection in its public schools? The country school teacher. <Public Health Reports, v. 28 (6), Feb. 7, pp. 247-249.

1913d. Contamination of food supplies. The value of protozoa as an aid in determining fecal contamination of the food supply. <Ibidem, v. 28 (7), Feb. 14, 290-291.

1913e. The value of Protozoa in determining fecal contamination of foods. <Science, N. Y., N. S., v. 37 (952), Mar. 28, 498. (Also Reprint 1 p.).

- 1913f. Soil pollution. The chain gang as a possible disseminator of intestinal parasites and infections. <Public Health Reports, Wash., v. 28 (21), May 23, pp. 985-986.
- 1913g. The economic aspects of hookworm disease in the United States. (Read September, 1912). <Trans. 15 the Internat. Cong. Hyg. and Demog., Wash., v. 3, pp. 757-764. (Also Reprint.)
- 1913h. Report of the Scientific Secretary [for 1912, Rockefeller Sanitary Commission.] <Third Annual Report, Rockefeller Sanitary Commission, Wash., public, No. 7, pp. 117-130.
- 1913i. Public Health and Maternity. <Virginia Med. Semi-Monthly, Richmond, Aug. 22, pp. 258-259.
- 1913k. In How Far has the doctrine of cleanliness and public health permeated the medical profession? <Southern Med. J., Nashville, Tenn., Dec. 1, v. 6 (12), pp. 783-784.

STILES, (C. W.) AND ALTMAN, (S. B.):

- 1913a. Snuff and tobacco. Their use by school boys and girls in County Z..... <Public Health Reports, Wash., v. 28 (9), Feb. 28, pp. 379-382.

STILES, (C. W.) AND ALTMAN, (W. L.):

- 1913a. Hookworm disease. Proportion of males to females in the American hookworm (*Necator americanus*), based on 13,080 worms from 102 cases. <Public Health Reports, Wash., v. 28 (1), Jan. 3, pp. 7-20.

- 1913b. Idem. Reprint No. 110, U. S. Public Health Service, 8°, Wash., pp. 1-15.

STILES, (C. W.) & BOATWRIGHT, (H. F.):

- 1913a. Thymol administration. Subjective effects in 464 administrations in 243 patients. <Public Health Reports, Wash., v. 28 (29), July 18, pp. 1497-1513. [Also Reprint].
- 1913b. Subjective symptoms of thymol. (Abstract of 1913a.). <Science, N. Y., N. S., v. 37 (952), Mar. 28, p. 498. [Also reprint 1 p.]

STILES, (C. W.) & KEISTER, (Wm. S.):

- 1913a. Flies as carriers of *Lambia* spores. The contamination of food with human excreta. <Public Health Reports, Wash., v. 28 (48), Nov. 28, pp. 2530-2534.

STILES, (C. W.) & LEONARD, (G. F.):

- 1913a. Hookworm disease. Number of treatments and number of full doses of thymol administered in 61 hospital and 22 home-cured cases of hookworm infection. <Public Health Reports, Wash., v. 28 (3), Jan. 17, 119-124.

- 1913b. Idem. Reprint No. 113, U. S. Public Health Service, 8,° Wash., pp. 1-8.

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